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A PARTS DISTRIBUTOR invites outof-town customers to telephone orders collect. In seven months, the plan brought \$17,798 in sales. Sales cost: less than 2%. A FARM EQUIPMENT WHOLESALER telephones out-of-town customers to thank them for their orders. Four calls, costing \$4.60, brought \$1,180 in additional sales. A MANUFACTURER of custom extrusions calls out-of-town customers to build good will. Calls costing only \$14.85 produced \$1,821 in orders in one month.

CONNECTICUT

DECEMBER . 1959

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THIS MONTH'S cover photo shows a 115 year-old sheet metal shear which still gives good service at the plant of Peck, Stow and Wilcox in Southington.

L. M. BINGHAM, Editor

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The Magic of Believing

♦ THE Christ Child, whose birth we honor this month, came into a world one half of which was ruled by Romans who were feared by the other half. It was a cruel world of cold war, hot brush fire skirmishes and unwarranted punishment for any of His people who were even suspected of infringing on the many rules, known and unknown, laid down by Rome to crush the hope of successful rebellion among its conquered people.

And yet, despite the apparent invincibility of the Roman armies and the ruthlessness of their governors, there was hope among the captive Jews that one day a saviour would appear to lead them out of their captivity. The "magic of their believing" came true on that starry cold night in Bethlehem nearly

1959 years ago.

Although, in maturity, the Christ Child disappointed his people by proclaiming love and brotherhood and a brighter kingdom to come in the hereafter, rather than becoming a conquering earthly king, He changed the destiny of mankind by setting forth a new code of conduct for men and nations.

Through dark ages of massacre, famine, pestilence and all types of persecution, His message of hope for the ultimate triumph of His philosophy of justice and human dignity was accepted by an ever-growing number until a portion of its concept was given expression in our form of government as sketched in broad outlines by the Declaration of Independence and the Constitution of the United States.

Despite the greatest demonstration of human progress ever made in all history, by even a partial acceptance of His philosophy here in America for nearly 183 years, a new tyranny in Soviet Russia threatens from without, while its philosophy of pure materialism is undermining our faith in the Hebrew-Christian philosophy that gave us the freedom that fostered our rise to greatness as a nation. Even as we are about to celebrate this Christmas, which should be a reminder that no tyranny lasts and that no man need foresake hope, many in our midst are accepting the idea that the "wave of the future" lies in the acceptance of a socialistic state. Too many who believe in the freedom concept are becoming disheartened. Leonard E. Read, president, The Foundation for Economic Education, summed up the situation admirably in a recent declaration to Foundation members and friends, which we quote, in part, as follows:

"A feeling of hopelessness is the straw that could break the back of the freedom movement—for real freedom will never be achieved without faith. People do not continue to work at a problem after its solution appears hopeless to them.

"Too many opponents of socialism—once convinced that there is no simple remedy at hand, and aware that the problem at issue is nothing less than altering the mores of a vast society—tend to give up the ghost. Unnerved by the dimensions of the job, they say, 'Oh, what's the use!'

"The tale of two frogs, dumped into a can of milk, comes to mind. One frog, quick to concede the hopelessness of his situation, gave up and promptly drowned. The other frog was of sterner stuff:

So he kicked and splashed and he slammed and

tiliasiicu,

And he kept on top through all;

And he churned that milk in first-class shape

In a great big butter ball.*

"Experience leads one to believe that the forces which have to do with shaping human destiny are of no help to those of little faith. Indeed, they appear to have no truck with people who lack confidence in what determined effort can accomplish.

"On the other hand, these forces—call them by your own name—tend to cooperate with those who believe they can accomplish the seemingly impossible and never call it quits until the game is over. There are men, be it observed, who do, in fact, move mountains. But they are not the men who doubt that mountains can be moved.

"Take note, for instance, of golfers on putting greens. There are those who doubt they can sink any but the simplest putts. And there are those who have confidence that they can sink every putt—they actually believe this! The former are miserable performers. Among the latter are to be found the skilled and all

the miracle putters.

"Miracles are all about us—a common loaf of bread is packed with wonders. Those who have no sense of the miraculous, who have no faith in achieving anything beyond what the unaided individual can accomplish, will be of little help in ridding our society of socialism. The problem seems too hoplessly impossible to them and they quit. But the undaunted, those who know the magic of believing, will make progress, for the forces which are available to those who believe will lend a hand to multiply their efforts."

Christmas is the season to renew hope and to buttress it with the faith and work that made our country the leader of the free world. With this "magic of believing" in our hearts, as symbolized nearly 2,000 years ago by the birth of the Christ Child, neither cold or hot wars can prevent the victory of freedom over the tyranny of government by socialism in any form.

Let us give thanks this Christmas to our Creator for the gift of His Son; for our freedom and material blessings, and above all, for those spiritual qualities of inspired work, hope and faith that worked together with Him in their creation.

Day, Holman F. Story of a Kicker.

Century Old Shear: Symbol of PEXTO Quality

■ OVER 100 years old, yet it can still shear smoothly. That's the claim for one of the sturdy products by Pexto, manufacturers of machines and tools

for metal fabricating.

The Peck, Stow & Wilcox Co. of Southington, Conn., serving a world-wide market with advanced machines, points with signal pride to a veritable museum piece, its "No. 1" foot squaring shear, (photo on front cover) which only recently was found still operating with accuracy at the Bloom Furnace Co. in Pekin, Ill.

Exact manufacturing date for old "No. 1," with its antiquated sewing-machine legs and pivotal action, is still unknown but available records trace its production back to the period between 1845-1855. Since "No. 1" is still visibly stamped on the machine it is probably the first foot squaring shear ever made

in this country.

The old shear consists of open frame castings with a cutting capacity of 30 inches for iron and tin sheets. In its heyday, the machine sold for \$55, blades \$14 per pair. The attached wooden table was assembled with hand-cut nails!

Old Shear Now On Exhibit

The shear, undeniable proof of machinery built for long-life, was immediately purchased back from the Illinois company by The Peck, Stow and Wilcox Co. Today, this company won't part with the shear, using it only for exhibition and demonstration, not too many rooms removed from where Pexto makes their latest models of foot and power-operated shears and tools to fully equip the average, up-to-date sheet metal working shop. The old shear, antiquated-yet-able, is "out to pasture" alone, but back in its bigselling days it had plenty of company in the Pexto world of products.

Pexto's Historic Background

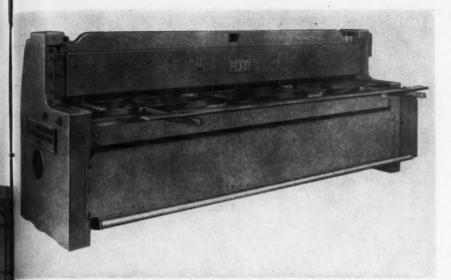
The company, whose operations trace back to 1785 in the tinware center of Southington, Conn., won over such regular customers as the rural Yankee Pedlars, whom Pexto kept well stocked with a wide range of tinned kitchenware and tableware.



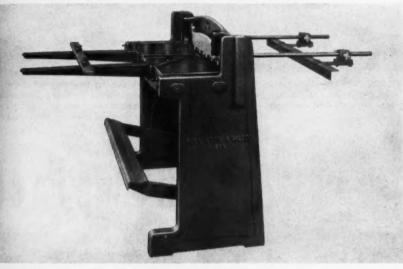
Pexto foot shears ready for shipment.



Students learn on Pexto equipment.



Industry uses Pexto Power Shears for production of cut blanks.



Here is a modern version of Pexto's precision foot shear.

Additional items offered by the company were the old schoolroom coat hooks, curry-combs, sad-irons and stands, carriage bolts and gate hinges, ornamental and elaborate ink stands, which featured hand-made copper bases that sold for \$6 per dozen.

Both sturdiness and fancy appearance were desired of products in the old Pedlar days, and Pexto filled the orders with such "snazzy-looking" items as pin trays, paper weights, flower-pot brackets, bird cage hooks and receptacles for those once-favored, finger-long wooden matches.

Indeed, the Yankee Pedlar had a lot of things from Pexto . . . but just what did such an uncanny country traveler see in Pexto products? Maybe he was sold on the solid workmanship. For it was with true industrial knowhow that the company's history began. Assertively enough, the first stages of

the firm's development were forged with "firsts."

Pattison, North, Buckley Are Famous Names

Among pioneering names in the company background was a Colonial tinsmith, Edward Pattison, who in the middle 18th Century was the first in America to mold articles out of tin plate from England. The early hand tools used were crude enough yet they were capable of launching the industry of tinworking in the U.S. . . . right in the Southington, Conn. area, home of *Pexto* today.

Later personalities, trailblazers in their own right, included metal craftsman Edmund North who, during the time surrounding the year 1800, was one of the earliest teachers of the tooling trade. Then there was William Buckley, Sr. and family, originators of shears for cutting metals in circles and the first to form snips and bench shears in dies, by hammering white heated steel into the die with a hand hammer.

Peck, Stow And Wilcox— All Early American Names

Other early names are those of Franklin Roys, the Wilcox brothers and Solomon Stow, who was making gear wheels and other machine parts. Mr. Stow later took out patents for an early Moore double reamer and the first forming machine designed by the company. Other prominent figures were Josiah Wilcox, toolmaker and Seth Peck, who built a tin business that became nationwide even before this country had laid a foot of railroad track.

These men for their early time, operated a surprisingly big business. They advertised widely and sold a "full line" of sheet metal machines for folding, grooving, turning, wiring, burring, and setting-down and they were the first in the country to make hand-lever squaring machines, which preceded the old "No. 1" foot-operated unit. Thus was born The Peck, Stow and Wilcox Co.

Neal Is First Pexto President

Pexto's first president, Roswell A. Neal, was an able and ambling trail blazer in an administrative capacity. Mr. Neal traveled the country seeking out new markets while formulating a sales merchandising program which continues, in essence, today. But while duly proud of its "firsts" of yesterday, Pexto, with new production and research facilities, strives to fill customers' needs of today and tomorrow.

Ahern Now Heads Pexto

Typical of the Pexto items filling present orders is the new line of power-packed, power-operated squaring shears, which embody reciprocating action and precision front and back gauges. These shears are capable of cutting, cleanly and accurately, sheets of steel, stainless, copper, brass, bronze, plastics, fiberglas, fiber-board and synthetic and printed circuit material.

Also, today, Pexto furnishes the workers of sheet metal, machines and hand tools of every description . . . from setting down hammers and snips to modern cutting, folding and forming machines. Under the able direction of R. J. Ahern, its president, this company continues to build new machines and tools to meet the needs of ever changing markets.

Pexto's Place in Industry

Pexto products are sold the world over to many types of users, large and small. In fact, wherever sheet metal is cut, bent, shaped, or formed the name Pexto is known. There is, however, one

(Continued on page 32)



Quality control studies showed advantages in inspection after each operation. Operators are their own inspectors.



Here a high frequency induction heater expands the outer ring momentarily allowing the inner ring, balls and retainer ring assembly to drop into place.



Special ball track honing machines developed by Norma-Hoffmann engineers provide a finer surface finish that reduces noise level of bearing and insures lower starting and running torque.

mati

heigh

with



Inside diameters of inner and outer races are ground on shoe-type centerless internal grinder. A special fluid pressure clamping device was developed to hold the larger work pieces against rotating backing plate.

Showplace



The ultra-precision grinding area is fully air conditioned with temperature held within one degree of 70°F and relative humidity between 45 and 50 per cent.



The rotary surface grinders that do the final pre-load grinding are equipped with automatic in-cycle air gaging that measures the height of the ground face above the chuck with each stroke of the table.



Finished races are washed, rinsed and rust inhibitor is applied before moving to the assembly areas separated from grinding area by window pierced partition.

of Ultra Precision

■ ANTICIPATING major growth within the next few years in precision machine tools, aircraft auxiliaries, woodworking machinery, computers and memory devices, high speed gear trains and similar applications involving speeds in excess of 50,000 rpm, Norma-Hoffmann Bearings Corporation, Stamford, has recently completed and started operation in a plant addition designed and tooled to produce ultra-precision angular contact bearings to meet the demand of the anticipated growth pattern.

Designed and built by the company's own engineering and operating personnel, the new facility is capable of producing high precision bearings with a value of more than \$1 million annually. The air conditioned and humidity controlled facility contains "the most modern machinery, methods and instruments available to the bearings industry," according to Richard D. Robertson, vice president in charge of manufacturing.

Plant Layout

Ultra-precision operations are sealed from the main plant, with an air lock anteroom where personnel entering can wash and change into special shop coats. Grinding and assembly areas are separated by a glass and steel partition. Green-tinted light diffusing corrugated glass fiber panels inside existing windows of the building's outer wall are gasketed to exclude dust and hold down heat gain. Ceilings and walls are insulated, and the dropped ceiling of sound absorbing material contains recessed fluorescent fixtures and air diffusers.

A minimum of 80 foot candles illumination is provided at work level. Block flooring (Kreolite) is used in the grinding area, while the assembly area has a dust-free magnesite composition flooring.

Manufacturing techniques developed at Norma-Hoffmann allow simplifying specifications for preloaded bearings. Because they are ground for universal duplex mounting, customers need order only one type and not worry about how it must be mounted.

Because of the number of precise operations that must be performed and the limited flow of work, the ultraprecision facilities utilize the concept of operator control to hold maximum loss from input to new low levels for this type of product. In-process quality control is so rigid that final inspection is principally performed for additional customer protection rather than separating "good from bad." By closely controlling tolerances of parts going into each machine, Norma-Hoffmann found it possible to control output precision to a degree heretofore unobtainable.

Manufacturing Techniques

While a number of automation techniques are incorporated into the manufacturing operations, ultra-precision bearings manufacture does not lend itself to full automation. Among the unique or unusual practices claimed for the new facility are:

Controlled environment, with full air temperature, humidity and dust control of all ultra-precision manufacturing op-

Super-accurate new universal preload grinding techniques with auto-(Continued on page 30)





A record number of person streamed through the Connecticut Building during the 1959 Exposition, as seen from this position on the balcony.

Exhibitors Build Good Will at Connecticut Building

By HUGO T. SAGLIO
Connecticut Development Commission



Charles Kaman welcomes Vice President Richard Nixon to Kaman Aircraft Exhibit in Connecticut Building.

■ DURING nine days of almost flawless late summer weather, men, women and children streamed through the Connecticut Building at the Eastern States Exposition to view the sample package of Connecticut that had been assembled there by the state's manufacturers, trade associations and other agencies. By closing time on Sunday, September 27th, 531,991 persons had passed through the gates onto the 185acre Exposition grounds for an all-time record attendance.

Officials of the Connecticut Development Commission, which manages the state-owned structure on the Avenue of States, estimate that some 425,000 persons visited the Connecticut Building this year. It is safe to assume that many of them learned something new about Connecticut. It is a matter of record that many of the exhibitors learned something new about their customers, past, present and prospective.

Long Range Values

Not all of the manufacturers who accepted exhibit space in the Connecticut Building took part in the exposition with the expectation of meeting actual customers face to face. Neither United Aircraft with a cutaway model of its J-57 power plant nor Kaman Aircraft with a three-and-one-half foot scale replica of the Rotodyne, plus continuous motion pictures of helicopters in service, had any illusions that figures on their order books would shoot skyward as a result of their exhibits. On the other hand, their money was not spent foolishly. Two results were immediately evident to the on-

looker. In the case of both companies, many of their employees and their obvious pride in association certainly did no harm to that important relationship known as employee good will. The second achievement might be called "education for the air age"—increased information about and strengthened confidence in the convenience and safety of air travel; and this one is a long-term investment in future business.

With the same realistic insight, Scovill Manufacturing wasn't hoping that the company's exhibit would persuade women to buy lipstick on the basis of the container's manufacturer rather than the advertised maker of the contents.

The company's exhibit of its Hamilton Beach line of consumer products certainly aroused the kind of interest that frequently turns into desire; but even this was surpassed by an overall public relations value. Attracted by a small model train hauling carloads of Scovill products, many Connecticut spectators got an entirely new perspective on the number and variety of items produced by one of the state's oldest manufacturers. The biggest return, however, was in the pride of the company employees as they observed strangers admiring Scovill products.

Stanley's Diversified Appeal

Taking full advantage of its large exhibit space, Stanley Works displayed the largest variety of its products ever shown together. Bolstered by continuous demonstrations, a multi-pronged bid for the visitors' attention was provided by an array that included everything from builder's hardware and a new concept for hanging a door over the opening to garden tools, hand tools, electric tools and drapery hardware. Consumer interest was specific and unmistakable. Stanley officials were no less impressed, however, by their employeevisitors' pride in their identification with the company and the delight with which they pointed out products in which they had had a hand. Company officials also noted significantly that some builders and representatives of other related trades, who might not get to big cities for trade shows, were in evidence and obviously impressed by product demonstrations and the comprehensive display. In this latter connection, the moral became clear that when you have a whole field of clover, you're bound to find a reasonable number of four-leaf specimens.

New Uses Found for Fuller Brush and Giant-Vac Products

Fuller Brush Company, as a case in point, discovered some four-leaf clov-

(Continued on page 34)



Fuller Brush Exhibit is visited on Governor's Day.



Selden Williams, president of Scovill Manufacturing Company, Waterbury, greets Governor at the company's exhibit.



The largest number of Stanley products ever shown together were on exhibit at the booth of The Stanley Works, New Britain.

Views on Manufacturing Management

By EDWARD BEARDSWORTH

From personal observations during more than 16 years of varied industrial experience, Mr. Beardsworth, who is both a full-time engineer for a large Connecticut corporation and a part-time attorney during his spare hours at home, has outlined the functions of industrial departments and managerial pitfalls as he sees them. While the views of management differ widely on some of the areas under discussion, Mr. Beardsworth's comments should serve both as a reference guide and thought stimulator to all three types of management—the specialists, the young men and the "old timers."

■ IN contrasting managerial ability and specialized proficiency, it is sometimes said that "technical proficiency can be bought." Not so with the combination of intelligence, initiative, and breadth of experience that is required to establish and maintain relationships among the various specialties such that a smooth-running, economical, and effective organization results.

The difficulties of successful management are compounded by the high levels at which intense specialization is required in this technological age. Differences arise among the various Department Head-Specialists which can be resolved well only by a management which has sufficient breadth fully to understand and appreciate the basic merits in each of several conflicting points-of-view. The paragraphs that follow outline typical responsibilities of the major specialties in a medium-sized manufacturing organization together with some observations on their relationships with Management.

Sales, at a net profit, is the ultimate goal of all business activity. Most successful sales philosophies seem to lie somewhere between the extremes a) customers will seek an outstanding product or service, and b) so long as you are in the competitive range, the customer will buy from the salesman he likes best. Although entertainment and an attractive personality have their place, no sales effort can overcome a poor product, too high a price, delayed delivery, inadequate service policies or the like, in the long run. Conversely, an outstanding product in the hands of a salesman who knows his field is in a very favorable position; but even here sales can be lost if the salesman has a negative personality and there is a logically suitable competitor.

Causes of Dissatisfaction

In the industrial field, I have dealt with dozens of suppliers and have observed that negative customer response is rarely caused by basically inadequate engineering or manufacturing, except as they are reflections of inadequate administration (e. g.—poor quality control). More often the customer's dissatisfaction is brought about by managerial deficiencies resulting in inattention to detail, broken delivery promises and inadequate supporting activities such as data publication and field service.

Functions of Departments

SERVICE is a function, the magnitude of which varies greatly among manufacturers, according to the nature of their products. Simple consumer goods may require no service depart-ment, while highly complicated military or industrial devices may require Service activities which outweigh any other single departmental activity. Frequently established as an arm of the sales department, Service performs its functions in two areas. First, by liaison with product engineering, service assures that necessary maintenance and parts replacement can be performed. It also provides for design and manufacture of any special field tools that may be required. Second, through publications and customer contact, Service educates the customer in the proper use of the product, provides overhaul service where warranted, and receives and acts on customer complaints. In small organizations, the service function is sometimes performed jointly by sales and engineering. Under such circumstances, unless management is particularly alert to the possibility, the service function becomes something of an orphan because of the rush of other business. Severe customer discontent may result.

RESEARCH & DEVELOPMENT are the father and mother, respectively, of successful new products. Pure research adds to the fund of information on which applied research may draw (mutations). Applied research starts with a goal, defined by management, and seeks to create an operable model. Development modifies and nourishes the model to the point that a viable infant product is born-manufacturable and salable as well as operable. Personnel involved exclusively in this natal activity frequently tend to become insular in outlook. Management's strong hand is required to harness their enthusiasm for ultimates and direct them into economically fruitful and timely channels. A good development man never wants to let go of his newborn product-there is no end to the modifications and improvements he would try.

PRODUCT ENGINEERING performs two basic functions. Starting with a "developed" product in the form of models and/or sketches, product engineering first redesigns its components and determines their tolerances so that they can be manufactured economically, taking into account not only the functions of the parts but also the anticipated lot sizes, available production facilities, and manufacturing and procurement costs. As with development, product engineering thinking is continually influenced by Sales Department advice. Unlike development, product engineering must also satisfy

manufacturing, quality control, and service. The second function of product engineering is to define the revised product in the formal language of drawings, specifications, and lists, which are the foundation of every manufac-

turing effort.

Some managements lack a full appreciation of the scope of product engineering effort. Confronted with a development model or promise date, and time estimates for tool design and fabrication, one can quite innocently feel that the link between the two should take little time. Where product engineering lacks a good spokesman, this kind of thinking can result in premature release of specifications, numerous and costly engineering changes and substandard early production.

PRODUCTION CONTROL, through issuance of purchase order requests and shop work orders, seek to make effective the manufacturing schedule established by management. Extensive records are required to combine these functions with maintaining control of inventory and work-in-process. Various degrees of mechanization and multi-purpose systems are used to keep personnel requirements and human error at a minimum, but considerable good judgement is required to balance lead time estimates and adjust schedules as shop capacity and delivery problems arise.

One opportunity for economy frequently overlooked is to establish only one master bill-of-materials lists by joint effort of product engineering and production control. Usually this possibility is recognized, if at all, only after other conflicting procedures have been established. Subsequent re-drafting and modification of lists, and revision as engineering changes are processed, necessarily involve additional human error

and resulting expense.

PURCHASING is charged with the responsibility of obtaining appropriate quality and delivery at the least possible cost, by buying the various raw materials, proprietary items, and services that are required. Although rigorously drafted specifications together with an accepted purchase order completely define the supplier's responsibilities, the buyer's legal rights are small comfort when specifications and/or delivery dates are not met. 100% integrity and rigorous adherence to specifications are not usual, so purchasing must know its suppliers and evaluate prices and promises against anticipated performance. Price alone is not an adequate

Quality control and production control have a strong influence on purchasing's ability to "educate" its suppliers, since a balance must be struck between the grievousness of deviations and the

time urgency involved in materials received. Where possible, substandard materials should be rejected. Ultimately suppliers will learn either to meet specifications or not quote, since manufacturing schedules frequently cannot tolerate the additional delays involved. A necessary corrolary of rejecting deviated material is that specifications must have been realistic. This writer was told by one vendor, quoting on marking dies with a height tolerance of ±.0000, that he knew ±.002 was meant, and that if he were to qualify his quote while others did not, he would risk losing the account.

MANUFACTURING ENGINEER-ING determines how parts and assemblies are to be manufactured. It also designs and fabricates tooling, establishes process sheets, conducts time and cost studies, and negotiates engineering changes for improved manufacturability or product performance. Establishment of tools and processing economically compatible with anticipated production quantities is a key activity in determining future profit or loss. High production tooling for small lots can be disastrously expensive, while tooling properly designed for limited production can increase manufacturing manpower requirements on large quantity production to the point that the resulting production is priced out of

MANUFACTURING has, as its chief area of interest and difficulty, the effective use of its personnel and facilities to meet schedules while maintaining quality. Liaison with supporting departments (production control, quality control, manufacturing engineering, product engineering) is the second major activity involved.

QUALITY CONTROL assures that purchased and manufactured items meet their specifications, as established by the requesting department (for supplies) or product engineering (for raw materials and manufacturing output). Theoretically it serves a "policing" function, and does not exercise discretion. Either specifications are met or the item is rejected, subject to the possibility that a deviation may be established by the specifying authority. It is nevertheless an organizational error to have quality control under the manufacturing department, since manufacturing's interest in seeing its output acceptable necessarily biases the viewpoint of quality control personnel who know on which side their bread is buttered.

ACCOUNTING concerns itself with all the monetary aspects of the company's operations-past, present, and future. It functions chiefly as a keeper of records and as a forecaster of future requirements.

THE LEGAL department concerns itself with all the various legal relationships between the company and all others. Chief areas of concern are the Law of Corporations, Contracts, Taxation, Labor, and Patents. As with research and development, personnel of the legal department frequently have insular viewpoints, which fact may work to the company's detriment. Lack of understanding of engineering and manufacturing problems on the part of the legal staff result occasionally in costly contractual obligations that could have and should have been avoided.

General Observations

An effective supervisor does no line work except as incidental to training.

Delegation of responsibility is vital to the morale and growth of subordinates.

One requisite to promotion frequently overlooked is the need to make ones self dispensable from his present position through systematization and

To function effectively, every employee must know the extent of his duties and responsibilities, and must

be vested with appropriate authority. Publishing of procedures and outlines of departmental responsibilities and relationships serves three important purposes-

- 1. The effort of compilation brings to light any logical and systematic deficiencies in the established operating rules.
- 2. It provides an operating guide for both old and new employees, settling incipient disputes and misunderstandings before they
- By pinpointing responsibility, it makes difficult, if not impossible, the practice of hiding inadequate performance by "buckpassing."

Large conferences can be made much more effective and brief if each conferee has previously read an outline of proposed action and salient arguments. Time spent preparing such an outline is usually well invested.

We have always done it that way" is no justification for continuing the practice in question, but also is frequently an indication that the practice should be restudied. "Why?" can be well answered if a questioned practice or procedure is well suited to the need

It has always seemed curious that proficient specialists, after many years of experience, are so frequently rewarded by promotion away from their specialties into administrative positions for which they may be only indifferently qualified.

The Rarest Man in Business

by PERRIN STRYKER

A splendid executive is not necessarily a leader, and a great industrial leader may be a terrible manager. Here are some observations on the nature of leadership in business. This article will be included as a part of Mr. Stryker's book on the same subject to be published by Harper & Brothers in 1960.

ALMOST any time he turns around, an executive is apt to have someone challenge him to demonstrate leadership in his business or his industry. And he himself is likely to talk about leadership as something every good manager ought to demonstrate every day. But a leader is actually a rare bird, and it is no simple matter to recognize one. The great industrial leader is the rarest phenomenon of all. The recognition of him depends on many factors. What he does and what characteristics he displays have to be appraised in the light of economic and social progress and of his own objectives and motives, things seldom clearly seen by his contemporaries. Only with the aid of historical perspective is it possible to recognize the stature of a great leader of industry. Perhaps his clearest identification marks are these: (1) he has an innate propensity for change and innovation; (2) he manages to change men's beliefs, attitudes, and behaviors with benefit to many people. This may seem to be a surprising summation of leadership, and indeed it is far from the popular conception of what makes a leader. But as we shall see, leadership actually boils down to these main hallmarks.

The idea of leadership is frequently associated with personality traits. In preceding articles on executive qualities, FORTUNE has dealt with the traits of emotional stability, ambition, drive, initiative, judgment, fairness, and being "good with people." We have seen that there can be no standard list of executive qualities, that the development of one trait may stunt the growth of another; that a manager may be weak in some traits often considered "essential"-ambition, for instance-and still do an excellent job; that the manifestation of qualities may vary greatly from time to time in the same individual. In addition, the assumption that a good

executive, does develop a wide range of qualities seems quite justifiable, and it is also fair to assume that his competence increases with the number of qualities he develops and the degree to which he develops them.

But leadership is not the sum of any number of qualities. A man may be fair, utterly dependable, have excellent judgment and foresight, be bursting with drive and ambition, be an excellent manager of people, and still not be a leader.

Is it sadism? Masochism?

Few words are used as loosely as "leader" and "leadership." Some businessmen simply add up all the wellknown executive qualities and decide that if a man has them, he is a leader. Others seem to reserve the term for what they consider to be the best kind of management performance. Conversely, many people in and out of industry talk of "business leaders" as though such men were as common as experts, specialists, and management consultants. A store manager who has remained solvent for fifty years in his community is likely to be called a business leader. And so may be the president of a corporation: his company is big and successfulergo, he is a leader.

The terms in which leadership is described today are often highly technical. Social scientists have been inclined to dismiss the idea that a leader is one of those richly endowed men who happen to appear on earth from time to time. The "Great Man Theory" seems to be too simple an explanation for sociologists and psychologists. Some of them, for instance, hold that leadership is the complex result of impersonal forces in groups and situations; others think leadership is the product of psychological pressures. such as anxiety or the sadism and masochism said to show up in those 'authoritarian" types who feel compelled to dominate others.

In contrast to such elaborations is the oversimplified explanation advanced by many executives today to the effect that leadership is essentially a matter of motivating, persuading or otherwise influencing subordinates. President Eisenhower subscribed to this view when he defined leadership as "the art of getting somebody else to do something you want done because he wants to do it." His words bear the impress of the "human relations" doctrines that have pervaded management and generally reflect the thinking of many competent executives. It is true that a leader does manipulate, motivate, and influence others to accomplish his ends. But such techniques are simply part of the mechanics of his leadership; they are not what characterize him as a leader.

The power to excite

A man may be a paragon of executive competence without being a great leader. A chief executive may have all the skills and traits needed to keep his corporation making profits and expanding in good measure; he may plan, coordinate, organize, maintain, and appraise excellently; but none of these capacities in itself will necessarily mark him as a leader. A leader may possess most of the qualities associated with good executives; or he may possess so few of them that he can be accurately labeled a wretched executive. An industrial leader has something far rarer than the capacity to manage, and he cannot be identified by his position or by the material success of his organization, or by the high opinion his associates may have of

An industrial leader may in turn seem brilliant, inarticulate, humanitarian, cruel, idealistic, flexible, obstinate; he can be a perplexing, contradictory mixture of good qualities and glaring defects impossible to add up.

Some men, although amply endowed with a propensity for change and innovation—the first important hallmark of leadership—are dominated by self-interest. There have been industrial "leaders" whose hunger for wealth and power led them to work changes that benefited themselves, but harmed others. This was the kind of leadership exhibited by Leland Stanford and other nineteenth-century railroad barons. While pioneering the spread of a new transportation system, they

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enriched themselves at its expense and left the system bankrupt,

Sometimes a leader heads directly toward the goal that stimulates him, cutting across current beliefs and traditions; at other times he may drive on an oblique, so that his eventual goal is not immediately ascertainable. But the true leader will always have a cause, perhaps a towering vision, that cannot be appreciated from its nether side, where others—practical, suspicious, or greedy—stand and watch. This sense of mission will often give him the look of a radical, a nonconformist. But the leader is not primarily a rebel. He is for something, and he aims ahead of others of his time.

What a great inqustrial leader does has the power to excite. His propensity for change and innovation can open fresh perspectives on the aims of industrial endeavor; boldness in embracing the new exposes the routine and the conventional, and makes others impatient with them. He will break loose from a comfortable job in order to gain more opportunity to effect change, to free himself from the subtle obstacles of security and familiar approval. He suspects continuity and repetitive success. And he is ready to risk not merely his company's temporary position but his own business reputation for long term gain.

The great leader in industry is usually well rewarded, but he sees his work as more important than his personal rewards or even the personal satisfactions he gathers from his work; or, to put it another way, the benefits derived from his work are his chief satisfaction and motive. He has a sense of service.

In all that he does, the leader manifests a rare kind of judgment, the kind that tells him what is out of true, and allows him to come rapidly to wise decisions on complex intangible issues between people and things. He isn't infallible, of course, and his judgment may be poor on investments and other practical matters. His special kind of judgment inevitably gives him a special self-confidence. The leader may not always feel certain, yet he knows his leadership will vanish with indecision, and he dares to guide others with the conviction that he knows the right direction better than they do.

The rule-breaker

The history of American business is replete with legends of personal success that have ben mistaken for industrial leadership. Two oustanding examples are Andrew Carnegie, whose canniness made him the first steel king, and John D. Rockefeller Sr., whose shrewd elimination of "waste-

ful competition" made him the first oil king. Both men amply illustrated the power of combined capital to increase production and profits, an innovation that certainly changed the character and direction of business practice. But both of these men also revealed plainly that they were dominated by self-interest. They later exhibited a "social conscience" in giving millions to philanthropic causes, and their gifts eventually benefited millions through education and science, but the returning of wealth to society, however admirable, is not an expression of leadership.

Then again, inventors and experimenters like Thomas Edison and Charles Kettering have led in the sense of being the first to devise mechanisms that millions wanted. But these men did not attempt to exercise industrial leadership.

Cyrus Hall McCormick, on the other hand, not only invented the reaper, but went on to other innovations in his determination to help the farmer move toward mechanization. His innovations in marketing alone-stable prices, written money-back guarantees, down payments, long-term credit, field tests-were a tremendous step forward. But after McCormick the First, the farm-equipment industry relapsed into inertia instead of trying to lead the farmer on with ever better machines. Nearly a century elapsed between the acceptance of McCormick's reaper in the 1840's and the acceptance of the light-weight farm tractor.

The man who eventually led the farmer to the tractor was Henry Ford I, who said, "My most constant ambition was to lift farm drudgery off flesh and blood and lay it on steel and motors. [But] I doubt that the light farm tractor could have been introduced on the farm had not the farmer had his eyes opened slowly but surely by the automobile." Ford, of course, did much more than open the farmer's eyes. Though he violated the rules of good executive behavior, his leadership was unquestionable: his determined development of the low-cost car and his introduction of the high minimum daily wage changed the character and direction of American business practice, indeed of American

The risk-taker

The fame of Ford as a leader, of course, endures. A classic example of American industrial leadership not so well remembered is Theodore N. Vail of A. T. & T. Vail was slow in showing his capacity; an indifferent student who preferred to go "sporting" with the boys in New York, he tried

drug clerking, telegraphing, farming, and schoolteaching before settling at the age of twenty-four in Omaha as a Union Pacific mail clerk. He soon grew impatient with the grossly inefficient railway mail service. He started sorting the mail while en route and worked out from train and stage-coach schedules a detailed guide showing the quickest connecting routes. These feats caught the eye of the general superintendent of the railway mail service, who called him to Washington in 1873 and made him his assistant.

Vail at once set out to reform the whole U. S. mail service. He got the railroads to build and operate "fast mail" trains, which cut mail delivery time between major cities by as much as twenty-four hours; and he revolutionized the system of politically appointed postal clerks by insisting that candidates pass an examination, an innovation that foreshadowed civil-service standards.

In 1878, two years after Vail had become superintendent of railway mails, Alexander Graham Bell's fatherin-law asked Vail if he would become general manager of the Bell Telephone Co. The little nine-month-old company was nearly broke and fighting for survival as Western Union sought to take over the telephone business. Vail gave up his secure \$5,000-a-year post for a job that offered him \$3,500—if the telephone company survived. Vail took the risk because he was a leader; he responded to Bell's vision of a great national telephone network, and he was moved to bring the vision to pass. In one all-night session he persuaded Western Union's lawyers to agree to stay out of the telephone business. Then he privately raised the capital needed to string the first long-distance telephone line (from Boston to Providence). His employers had refused to take this risk, but once Vail showed it could be done, the Bell company went into the long-lines business seriously.

In the next eight years Vail established the form, strategy, character, and direction of the Bell System as a "natural monopoly." He foresaw that the system could hold its dominant position by (a) licensing hundreds of local telephone companies; (b) controlling them through a network of long lines connecting every exchange; and (c) controlling all new telephone developments through operations of a manufacturing affiliate.

As this system flourished, Vail kept urging the Boston capitalists who owned the company to take smaller dividends and put more money into research and expansion. But the financiers ignored him; they considered him merely a hired hand, and would not give him the command he needed as a leader. By 1887 Vail had had enough: "My present position in the company," he wrote, "is not such as I had hoped to attain, and is also in some ways em-barrassing and unpleasant." He re-

During the next fifteen years Vail traveled widely. His flair for innova-tion soon led him to organize the electrification of Buenos Aires' streetrailway system, and in Europe and Asia he helped establish lighting and telephone companies. He continued his old practice of investing in all sorts of patents and small companies that seemed to him likely to revolutionize their industries, and his business judgment was very poor, for nearly every one of these investments lost him money. But money was not his object.

Experimenting on his Vermont farm, Vail determined to make New England farming give more benefits to the farmer; he studied and applied modern agricultural methods and taught other farmers how to use their soil efficiently. He also organized an agricultural school to teach farm chil-

dren practical farming.

But the challenge of the telephone business retained its grip on Vail. By 1902 A. T. & T. was suffering sorely from over-expansion, poor public relations, and competition from scores of small independent companies. That year, after a New York banking syndicate headed by J. P. Morgan & Co. had bought into A. T. & T., Vail accepted a place on the board. Five years later Vail was elected president at the age of sixty-two and given a free hand to direct the system. He at once raised some \$21 million of new capital and soon thoroughly revamped the company by cutting costs, reorganizing engineering and research, standardizing equipment, centralizing control, etc. In 1909 he got A. T. & T. to buy control of Western Union and proceeded to revamp its operations, inaugurating cheap night-letter service, reduced rates for deferred messages and cables, telephoned telegrams, etc. In 1913 the Department of Justice ruled that A. T. & T. had to give up its control of Western Union and also stop acquiring independent phone companies. Foreseeing that the pressure of public opinion might eventually force the government to take over the telephone system, Vail forthrightly ran counter to general business opinion and exhibited his leadership by proclaiming himself heartily in favor of government regulation of all public utilities. His business creed was clear: "The present way-private management and ownership, subordinated to public interests and under national control and regulation by

national, state, or municipal bodies
—is the best." And after Vail's death
in 1920 the "natural monopoly" he had built continued strong and profitable because his leadership had shown how to produce the best telephone system in the world.

Who leads today?

This citing of some of the great industrial leaders in the past raises the question: who are the great leaders today? Certainly one of the real movers and shakers whose influence has been widely felt is Theodore V. Houser, recently retired (1958) chairman of Sears, Roebuck & Co. Houser developed and carried out his "balanced economy" plan for returning to rural communities some of the money that Sears' mail-order sales had long drawn from those communities. For every product Sears bought, Houser found out how small a plant could be and still produce that product efficiently. Then he helped local enterprisers set up such plants all over the U.S. In the Southeast, for example, Sears helped establish about 100 small plants, thereby approximately balancing Sears' purchases and sales in that area. In this way Sears improved the economic health of every community where it located a supplier. This innovation of relating production, purchasing, and sales to local economic health has benefited thousands, and could foreshadow major changes in American industrial practice.

Certainly, too, the Levitts-father Abraham and two sons, William and Alfred—have shown leadership. They have been responsible for major innovations in the housing industry. Particularly, they applied mass-production techniques to building low-priced houses with better design, more mechanical improvements and more sales appeal than other houses in their price class. The two mass-produced Levitttowns (some 35,000 houses) built since 1947 are the joint product of the landscaping talents of the father, the financial talents of William, and the architectural talents of Alfred. The potential impact of the Levitts on American life is incalculable, comparable perhaps only to the impact of

Time, of course, is a determining factor in whether a man will deserve to be ranked as a great leader. There are many American executives today who are demonstrating great inventiveness and enterprise, and it may be that their policies and practices will indeed one day radically change the beliefs, attitudes, and behaviors of men so as to benefit many people. One such man is Donald J. Russell, president of the Southern Pacific. He said, "We're in

the business of supplying transportation to our customers, and if they leave us, we have an obligation to follow them." And by following them he has thrown over archaic railroad policies. He met competition from other forms of transportation by putting his company into both the trucking business and the pipeline business, and he cooperated with the airline in distributing air freight and selling airline tickets. Thus Russell has pointed the way toward a combination of systems that could revolutionize the transportation industry.

Another example would be Franklin J. Lunding, chairman of Jewel Tea Co., who has seriously practiced his unconventional beliefs about executive development, e. g., he has insisted -on pain of dismissal-that his managers refrain from giving orders and concentrate on serving as "first assistants" to their subordinates. The result of these policies is to reverse the old top-to-bottom flow of authority and responsibility. in effect turning the conventional organization chart upside down so that each manager is responsible for helping those he is in charge of. Obviously, Lunding is leading what could be a revolutionary attack on authoritarianism in management, which might have profound effects on industrial relations.

Leaders vs. the system

Lunding is in the advance guard of an attack that has already had a deep effect on American management. He has taken a second and most significant step in an experiment that had its beginning in the late Twenties with two Harvard professors, Elton Mayo and F. J. Roethlisberger. In collaboration with W. J. Dickson, chief of employee-relations research at Western Electric's Hawthorne plant, they first scientifically explored the nature of the worker's relations with the corporation. The Hawthorne experiments established the fact that psychological satisfaction and security on a job were more important to the productivity of workers than good pay or good working conditions. Ever since, techniques for improving "human rela-tions" in industry have multiplied copiously. The executive is not expected to exercise his authority from a pinnacle but to win cooperation by working on a level down with the troops; his job now consists more of placating, humoring, and helping employees, of making sure that they find satisfaction in their jobs.

Here is certainly a challenge to subtlety, humility, and to human understanding. And Lunding may come out bearing the stamp of a great leader

(Continued on page 30)

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News Forum

This department includes a digest of news and comment about Connecticut industry of interest to management and others desiring to follow industrial news and trends.

♦ CHARLES K. RICHTER has been appointed export manager for The Stanley Works, New Britain, it has been announced by Richard T. Calmer, director of export sales.

Mr. Richter succeeds Gerald M. Coholan who will retire January 1 after 51 years of service with the company.

With his appointment, Mr. Richter assumes the supervision of the export department in New Britain, the export sales of the products manufactured in America and coordination of export sales of Stanley subsidary companies in England, Germany and Canada.

♦ MITCHELL-BRADFORD Chemical Co., Milford, has announced a new "Activated" Black Magic for producing a black oxide finish on steel. This is the latest development in the line of Black Magic blackening processes and it is described as an extraordinary step forward in black oxide processing.

It is a new approach to a black oxide process because of its constant, automatic, self regenerating, decontaminating, catalytic action along with other vitally important and unusual characteristics.

As in previous Black Magic black oxide processes the new "Activated" Black Magic for steel is a single bath with one chemically balanced salt for

additions to the blackening solution.

♦ KENNETH R. TUTTLE, editor of The Stanley World, employee publica-tion of The Stanley Works, New Britain, recently completed twenty-five years of service with Stanley and received his Quarter Century Club Pin and watch. He has been editor of the company publication for twenty years.

The Stanley World, one of the oldest employee publications, having its origin in 1917, is well known throughout the world, being exchanged with editors in England and India, and in this

country.

Mr. Tuttle organized the Connecticut Editor's Association in 1941 and served as president for two years. The same year he was made a vice president of International Council Industrial Editors Association and a member of its Board of Governors. He is still active with both groups.

♦ WORKING ASSOCIATES of Clifford H. Warner, master gunsmith, toolmaker and precision machinist at Winchester-Western Division, Olin Mathieson Chemical Corporation, New Haven, honored him recently at a testimonial luncheon.

For Mr. Warner, who has helped with the research work on every Winchester rifle and shotgun developed since 1910, it marked the close of a 53year career with the company. His retirement became effective at the end of the day.

♦ ALBERT S. REDWAY, president of Rockbestos Wire & Cable Co. Division of Cerro de Pasco Corporation, New Haven, has resigned that position, and Alexander S. Basil has been appointed vice president and general manager, it was announced recently by Robert P. Koenig, president of Cerro de Pasco Corporation.

Mr. Redway, who had been president of Rockbestos for four years, said that he was resigning for personal reasons. Before joining Rockbestos Mr. Redway had been president of American Paper Goods Company, Kensington, for five years. Previously he had been executive vice president of Geometric Tool Company, New Haven, and vice president of Farrel Birmingham Co., Ansonia.

Mr. Basil was appointed works manager of Rockbestos in July 1957 and in December of last year was made vice president-manufacturing.

♦ EUGENE C. NICHOLSON has been named eastern regional manager for Edwards Company, Inc., South Norwalk it has been announced by R. L. Kampton, marketing vice president. Mr. Nicholson had formerly been Los Angeles district manager for the 87year old electrical manufacturer.

Mr. Nicholson will be responsible for sales of Edwards' control, communication and protection equipment throughout the New England, Middle Atlantic and East Central States. He replaced T. F. McCarthy, who was recently promoted to vice president in charge of market development.



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♦ AT THE ANNUAL meeting of the Continental Engineering Corporation of Farmington, Leland D. Cobb was elected president and Arthur J. Wasley chairman of the board. Continental Engineering specializes in the research, design and development of new product inventions. A most recent development is a rubber seal innovation for ball, roller and needle bearings.

Mr. Cobb started his career with New Departure in 1928 upon receiving his Electrical Engineering degree from Pratt Institute. At New Departure he spent many years directing projects concerning testing lubrication and bearing applications. In 1947 he was appointed manager of research and development. Prior to that he was an executive engineer and later assistant to the division's general manager.

♦ GEORGE F. BARNES, who retired as owner and president of the Barnes Tool Co. last fall, died recently of a heart attack at the Quinnipiack Club, New Haven, where he has resided for the past two years.

Mr. Barnes was well known throughout the New Haven area as an industrialist and a civic leader. He served as president of the Barnes Tool Company for 61 years. His father, Elbridge Barnes, founded the company in

He was active in the Kiwanis Club, which he joined in 1917, and served the New Haven City Plan Commission for 12 years, retiring last February. He was also a member of the board of di-

rectors of the YMCA for 30 years.

Mr. Barnes is survived by four sis-

A NEW TYPE high-capacity hot extrusion press, recently installed by Lake Erie Machinery Corporation in the Scovill Manufacturing Company main plant at Waterbury, is said to be the largest single unit of its kind in the world.

Size and power of the new press alone are reported to permit an entirely new approach to brass and copper "tube shell" production. Much larger billets can be handled and both longer and heavier tube shells produced. The press is capable of processing almost twice the tonnage of metal previously handled on this type of equipment.

The 40-foot height of the press above the mill floor makes it a uniquely massive unit, even in an industry where large-scale equipment is commonplace. The bottom of the press is 45 feet below floor level—the equivalent of a two-story building with a couple of sub-basements.

When in full production, this new hot extrusion press is expected to satisfy a substantial part of Scovill's production demand for non-ferrous alloy

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♦ CONNECTICUT played a vital role in the successful launching of our newest earth satellite. Special Primacord (reg. trade mark) of various types was used in the Juno II Rocket System for destruct and adapter assemblies and for the separation of the nose and aft sections. Primacord is manufactured by The Ensign-Bickford Company, Simsbury.

The functioning of this material at the proper time and its reliability were important and fundamental to the successful functioning of the entire vehicle. Accordingly, thousands of tests are performed by Ensign Bickford to insure the reliability of the cords and the most careful inspection techniques

are applied to the product.

• FULLY INTEGRATED data processing for under \$100 a month rental now is available as a tool in numerous manufacturing applications.

The system is built around Royal McBee's new Keysort Tabulating Punch. The machine is the first data processing tool that automatically code-punches and tabulates original records. The Tab Punch makes possible rapid, economical and accurate accumulation of data in many accounting and production jobs.

The basic document in the Keysort system is a card with coded holes built into its edges. These holes can be notched to indicate many factors—clock number, item and number, department, shift, machine, date or other

production data.

The Tabulating Punch, when added to the basic Keysort system provides fully automatic accumulation of totals.

- ♦ DURABLE lightweight aluminum mop handles that are 22% lighter than wood, have been added to the Fuller Brush line of industrial cleaning and maintenance equipment. Finished in a hard gray anodized luster which resists chipping and scratching, they are available in two models: clamp type jaws (No. 7C-147) and springless solid grip jaws (No. 7C150), each in 54" and 60" lengths.
- ♦ THE APPOINTMENT of Earle L. Taylor as plant manager of Aerosol Techniques, Inc., Bridgeport, has been announced by H. R. Shepherd, president. Mr. Taylor, who has been assistant plant manager, will be in charge of all processing and maintenance at the aerosol filling company's recently expanded main manufacturing center.

With the company since its founding, Mr. Taylor was previously with Connecticut Chemical Research Corporation.

♦ THE AMERICAN THREAD COMPANY has appointed Raymond J. Fontaine, Jr. general merchandise manager of its spun synthetics divi-

Mr. Fontaine will direct and coordinate all phases of the company's synthetic operations. John Connorton will have the responsibility of wool and spun synthetics buying while David Morgan will serve as sales representative.

◆ JOHN A. COE, chairman of the board of American Brass Company, Waterbury, has been elected a vice president of The Anaconda Company. The announcement was made by Clyde E. Weed, chairman of the board of The Anaconda Company, at a luncheon

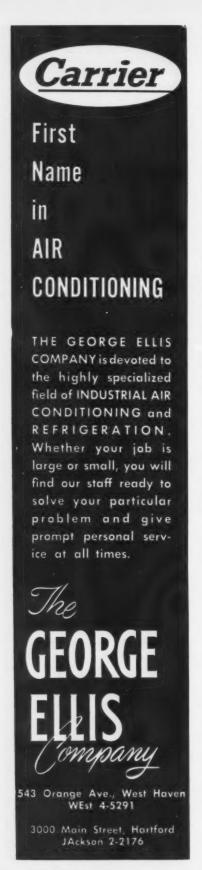
sponsored by its subsidiary, The American Brass Company, and attended by a group of Naugatuck Valley businessmen and company executives.

Mr. Coe's election was described as a part of a plan for strengthening company management. Richard M. Stewart, president of The American Brass Company, has become chief executive officer of that subsidiary.

♦ ROBERT S. ROGGE has been appointed sales manager of the Illuminating Division of The Miller Company, Meriden.

He will head the Illuminating Division Field Sales Force and will be headquartered in Meriden. Mr. Rogge joined Miller in June, 1947 as an application engineer and has served in





various field sales assignments for the past ten years. During the last four years he has been central regional sales manager with headquarters in Dearborn, Michigan.

♦ CONSTRUCTION of a major addition to the plant of the Eastern Steel and Metal Company, West Haven, has been completed. The 15,000 foot unit enlarges the entire Eastern plant to some 50,000 square feet.

Eastern Steel was founded in 1933, and has developed into one of the larger strip and sheet steel and aluminum warehouses in southern New Eng-

land.

The new plant increases the storage facilities of the company to approximately 20,000 tons. Constructed of steel and concrete, it has two 40-foot bays, which extend 32 feet high and run the length of the 200-foot building. Loading and unloading will be serviced by the two 10-ton overhead traveling cranes.

♦ DEVELOPMENT of a new machine for marking manufacturer's identity or other information continuously into aluminum electrical mechanical tubing has been announced by The Noble & Westbrook Manufacturing Company of East Hartford, manufacturers of rapid production indenting marking equipment and marking tools.

The new Model 534 applies identical EMT markings permanently at one foot intervals along lengths of tubing in sizes from 3/8" O.D. to 2" O.D. In addition, it also marks at three radial locations, 120 degrees apart. Feed rate is variable from 175-350 feet per minute. A unique feature of the machine is the standard 18" scroll chuck with jaws modified to hold three roll die heads each of which accommodates a concave roll marking die. The marking dies are adjusted for various tube diameters by movement of the chuck jaws.

♦ COUSTIFAB (R), a new high

density, low-mass, sound and vibration attenuating material developed by the Cordo Chemical Corporation of Norwalk, is a flexible vinyl plastic sheet impregnated with metallic lead powder and backed with either woven glassfiber cloth or cottonduck or other fabrics. It may also be obtained with a pressure-sensitive adhesive backing, making it easy to apply to metal and other surfaces.

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The new product is suggested for numerous industrial applications such as linings for many types of noisy machinery housings, noise suppressor covers for pumps and compressors, with foams laminated to Coustifab for ceiling or cabin-wall coverings for aircraft and helicopters, dampening sound and vibrations in business machines and card punchers, in dictating equipment, wind tunnels, computers and office wall panels.

♦ HENRY D. TOWERS has been appointed vice president-manufacturing by the board of directors of Pratt, Read & Co., Inc., it has been announced by Peter H. Comstock, president.

Prior to joining Pratt, Read & Co., Inc. in 1956 as production manager, Mr. Towers was superintendent of the Uncasville plant of the Robert Gair Company for seven years. He served for two years as personnel manager at the Brooklyn, New York plant of Robert Gair after joining that company in 1947.

♦ FREDERICK R. KRABBE has been named senior sales engineer by Frederick Daggett, president of Flexible Tubing Corporation, Guilford. Mr. Krabbe will work out of the company's newly established Wichita, Kansas office.

Flexible Tubing manufactures spirally wound, reinforced, fabric flexible ducts for handling air, gases, fumes, many light solids, and liquids.

♦ A NEW, automatic single-unit photocopier was introduced by F. G. Ludwig, Inc., Old Saybrook, at the Na-

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tional Business Show held in New York recently. Highlight of the new photocopier is its unique "Seal Pak," a convenient, disposable sealed vinyl bag which contains the processing fluid.

Called the Contouramatic Mark II, the new machine, available in grey or red, is designed to be an attractive addition to the modern business office.

♦ SETON NAME PLATE COM-PANY has recently moved to larger quarters at 50 Fitch Street in New Haven.

According to President F. R. Seton the move was made in order to enlarge production facilities for the increasing number of engraving orders which the company is handling for electronic instrument manufacturers throughout the United States.

♦ THE GREATER Waterbury Industrial Development Corp. made its first major step forward recently toward the establishment of Pierpont Industrial Park with the signing of land purchase contracts by John H. Payne, Jr., president of the corporation and Marion Pierpont, executrix of the Pierpont estate.

With the acquisition of the tract, the corporation will embark upon a campaign to raise the necessary funds for the development of the land for light

industry.

The Greater Waterbury Industrial Development Corp., among other purposes, was founded to encourage industry to locate in the Waterbury area and to acquire land in order to facilitate diversified industrial development.

♦ A SURPRISE DINNER PARTY was given recently by the employees of The American Buckle Company, West Haven, in honor of their president, Robert J. Hodge, who celebrated his 80th birthday October 14.

The highlight of the evening was the presentation of a large birthday cake

and gift to Mr. Hodge.

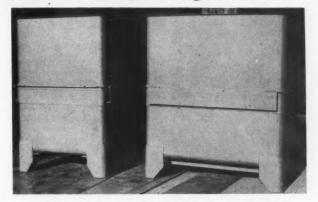
Mr. Hodge has been associated with the American Buckle Company for 43 years.

♦ PURCHASE of the Lacey Manufacturing Company, Inc., Bridgeport, tool and die fabricator, has been announced by The Barden Corporation, Danbury.

J. Robert Tomlinson, Barden president, said the acquisition will broaden Barden's operations by producing stamped metal ball retainers which it has been purchasing from Lacey for many years. These are important components of precision ball bearings.

Operating as a wholly-owned Barden subsidiary, the Lacey company will continue at its present location and will retain its present personnel of approximately 80.

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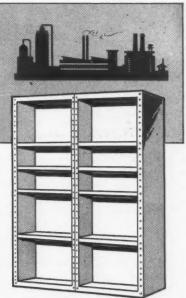
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ARTHUR J. SCHWENZER has been appointed vice president-assistant to the president by the board of directors of Pratt, Read & Co., Inc., Ivory-

Prior to joining Pratt, Read in 1942, Mr. Schwenzer was with the Equitable Life Assurance Company for 13 years. In 1946 Mr. Schwenzer was appointed production planning manager at the Ivoryton .company and was made factory manager in 1954.

♦ PRODUCTION of \$1 million worth of submarine detecting sets was started recently by the Singer Manufac-turing Co., Bridgeport. The Navy con-tract will keep the plant's Military Products Division at peak operation until early 1961.

The equipment is planned for use in several types of Naval aircraft as an important part of the nation's submarine

detecting system.

The military division is also engaged in research and development work for the armed forces and in the manufacture of other electronic and optical components for the missile and space fields.

♦ ARMED FORCES contracts awarded recently to the Connecticut Telephone and Electric Company, Meriden, doubled the backlog of orders to more than \$2.5 million, Harry R. Cox, executive vice president, announced recently.

The new orders, received from United States Signal Corps, call for the delivery of 620 communication test sets, 5,100 telegraph-telephone signal converters, and 1,400 telegraph ter-

minals.

♦ FOR THE SECOND TIME in five years the Summit Finishing Co., Inc., Thomaston, is doubling its facilities to broaden its scope of operations. The company provides engineered precision industrial metal finishing in the fields of electronics, guided missiles, guidance systems, jet engines, computers, atomic energy, bearings and general manufacturing.

The present expansion, which was recently approved by the board of directors, includes 11,200 additional square feet of production space and 3,200 additional square feet of engineering and administration space.

The two-story addition will allow for greatly increased capacity of electroplating continuous strip and wire. Equipment to perform continuous plating, including pre-formed parts in coils, was developed two years ago by Summit engineers and technicians. Also planned for in the expansion program is a complete installation of timing equipment and wire.

The company has available on request a twelve-page brochure entitled Quality Unlimited.

HENRY A. TRUSLOW, president of Ponemah Mills, Taftville, was honored recently by directors of the Northern Textile Association at the group's annual meeting.

He was presented with a silver tray, with the signatures of the directors and inscribed "in appreciation of his leadership and services to the textile in-dustry as president of Northern Tex-tile Association from 1957-1959" Mr. Truslow was elected a director of the association after retiring as president.

♦ ROBERT H. KEANE, superintendent of industrial and labor relations for Landers, Plume and Atwood Corporation, Thomaston, has been named director of employee relations of Landers, Frary and Clark, New

Mr. Keane has had more than 15 years of experience in the labor and industrial relations field. He also has been superintendent of industrial and labor relations for the Plume & Atwood Manufacturing Company. Prior to this he handled labor and industrial relations, industrial engineering and sales promotion functions for the Cuno Engineering Corporation, Meriden.

♦ WALTER S. ROSE has been named sales promotion manager for the Baird Machine Co. of Stratford. He was formerly in the sales estimating department.

As sales promotion manager he will be in charge of advertising and sales promotional programs and the organization of distributor training programs.

♦ MANUFACTURE of transistors by production personnel has started in the new "controlled conditions" plant of National Semiconductor Corporation, Danbury, it has been announced by Dr. Bernard J. Rothlein, president.

Developed for low power level amplification in electronic equipment for missile, aircraft and industrial uses, the transistors now in production are the p-n-p silicon alloy "small signal" type. They meet stringent military qualifications for low noise amplification, low leakage, and stability under extreme environmental conditions.

♦ FREDERICK R. DOWNS, JR., sales manager for Stanley-Humason, Inc. of Forestville, a subsidiary of The Stanley Works, was elected president of the New England Group of Spring Manufacturers at its recent annual meeting held in Bristol.

The organization is affiliated with

the National Spring Manufacturers Association, Inc.

♦ EMIL H. BERGES, JR. has been named marketing manager for The Abbott Ball Company, West Hartford, Wade P. Abbott, company president, has announced.

Mr. Berges was graduated from Brown University in 1949 with a degree in economics. From 1950 until joining Abbott he had served the Hinde & Dauche division of West Virginia Pulp and Paper as district sales manager for their Meriden plant.

♦ SOME 5,000 new stockholders have been added to the list of The Southern New England Telephone Company's owners as the result of a recent 24 million dollar stock offering, it has been reported by G. Gordon Copeland, the company's financial vice president.

SNET now has more than 71,000 owners, of whom nearly 90 per cent are residents of Connecticut.

This was the sixteenth time since the end of World War II that the company had sold securities to finance its growth. The \$235 million thus obtained has enabled the company to increase the number of telephones it serves in this state from 510,000 in 1945 to 1,200,000 today. Direct distance dialing has been established for

most of the company's customers and many other service improvements introduced.

♦ The United States Post Office Department has given Pitney-Bowes, Inc., Stamford, a \$2,250,000 order for 75 automatic mail "facing and canceling" machines. It is said to be the department's first volume order for automatic mail handling equipment since it embarked on its program to install modern production methods in the world's largest postal operation.

largest postal operation.

The new "facer-cancelers," developed and produced by Pitney-Bowes, will eliminate one of the most costly and tedious post office jobs—the hand facing of letter mail bearing adhesive stamps. The new machine, according to Pitney-Bowes, eliminates hand facing by taking letters of any length just as they come, and facing and canceling them automatically at speeds up to 500 a minute.

♦ RODMAN W. CHAMBERLAIN, JR. has been appointed to the newly created marketing staff position of national account sales manager for The Stanley Works, New Britain. He will be responsible for administering sales programs for national accounts.

Mr. Chamberlain has been national account sales manager for Stanley Tools

since 1958. Previously he was a sales representative for Stanley Tools in the Wisconsin, Minnesota and upper Michigan territory and since 1955 has been product line manager for measuring tools.

♦ SPERRY PRODUCTS, INC., Danbury, which was acquired in late October by the Howe Sound Co. of New York City, has recently introduced a portable ultrasonic thickness gage, a unitized reflectoscope called the UM Reflectoscope, and a new ultrasonic flaw detector called the UI Reflectoscope.

The new portable ultrasonic thickness gage will be used for measuring thickness and inspecting corrosion in pipe, storage vessels, hull plates and other applications. Since it uses transistors and low voltage batteries, it is explosion resistant. No larger than a portable radio, it may be strapped to the operator's back and carried into confined areas.

The UM Reflectoscope features an economical building method that permits selection of only the necessary components for a testing job and provides a means for adding to instrumentation to meet increasing or changing testing requirements. It is approximately 7-1/2" high, 20" wide and 20" deep and weighs about 35 pounds. An





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attached handle permits the UM to be carried easily like a piece of luggage, and it can be folded to tilt the instrument in testing position for easy view-

ing.

The new ultrasonic flaw detector called the UI Reflectoscope is said to incorporate the most advanced technology in this field. It is compact and lightweight, and is suitable for both contact and immersed inspection. The full use of printed circuits and transistors has resulted in a versatile instrument with many capabilities that is yet small in size and easy to handle.

♦ ARCHIE J. MACDERMID, prominent Waterbury industrialist, recently sold controlling interest in MacDermid Incorporated, developer and manufacturer of metal finishing chemicals.

Under terms of the \$1,500,000 transaction, representing 31% of the outstanding stock, MacDermid sold 16,240 shares to 55 employees at a price of \$33.16 per share. His remaining holdings of 29,000 shares were purchased by the company at the same price. Eighty percent of the employees now own 72% of the voting stock.

MacDermid established the company in Waterbury in 1922 doing a local business in metal cleaning compounds. Since then the company has developed products which now include copper plating processes, stripping compounds, dry acid salts, chemical and electrochemical bright dips, chromate conversion coatings, and other metal finishing specialties.

♦ NEARLY 20,000 employees and their families were the guests of Hamilton Standard, division of United Aircraft Corporation, Windsor Locks recently when the company's plants were opened for an Employees' Family Day.

The occasion was the first since the division's original plant was opened for inspection by employees' families in 1953, one year following its completion. A second plant almost as large as the first was built in Windsor Locks in 1957, and a quarter million square foot building was purchased at Broad Brook in 1954.

Charles M. Kearns, general manager, pointed out in his letter of invitation to the employees that the Family Day is part of the division's observance of its 40th anniversary this year since one of the division's two predecessor companies, Standard Steel Propeller Corporation, was incorporated in Pittsburgh in 1919.

At Windsor Locks the tour route took the visitors through both buildings to view typical operations in the manufacturing of jet engine controls and starters, air conditioning systems, hydraulic pumps, and aircraft propellers, and the division's experimental

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At the company's Broad Brook plant the tour took employees and their families through the growing experimental and manufacturing areas of the Electronics Department, which was established as an autonomous organization September 1st. Currently employing approximately 600 persons, the department is developing and manufacturing a variety of electronic controls for Hamilton Standard and for other customers.

♦ MORE THAN 125 patents on items raging from a tomato peeling machine to an automatic mortar batching device are described in the November issue of the Small Business Administration's "Products List Circular."

The monthly publication is designed to provide small business firms with additional sources of information on products and processes which may open new fields of opportunity for them. Information on both privately and Government-owned patents is carried in each edition of the circular. The privately owned patents are available for use through purchasing, licensing or other commonly used arrangements. Government-owned patents are limited to licensing only on a nonexclusive, royalty-free basis.

Copies of the circular are available without charge from the Hartford Office of SBA at 44 Gillett Street, Hartford, or from SBA branch offices in other reason of the country.

other areas of the country.

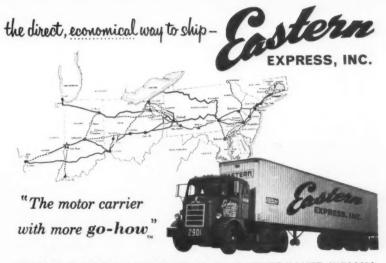
♦ THE DEXTONE COMPANY, New Haven has been awarded a contract by the R. R. Donnelley and Sons to furnish Mo-Sai Insulated Wall Panels for a new printing plant located at Old Saybrook, it has been announced by Louis L. Falco, Dextone's president.

Dextone will supply 320 wall panels 4'8" wide by 13'3" in height and each panel will weigh 1 and 3/4 tons. An interesting aspect in the construction is the fact that the curtain panels will be backed by lightweight concrete, thereby giving each panel an insulating value of .33 B.T.U. per square foot. No further interior finish is required.

♦ VISITORS to the National Business Show in New York recently were greeted by a display designed and produced by The Display Workshop, Inc., Hartford. The design submitted by Display Workshop was selected in national competition for the Center Theme of the National Business Show. The company also designed and built an actual radio station for Station WNEW and a press gallery for the United Press International.

The units constructed by the Hartford firm exemplify "Electronics in





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Communications." The central theme piece, a design of concentric circles depicting communication or the travel of sound, hung at the head of the New York Coliseum's escalators. At its center, colored lighting effects alternately display the waving lines seen in an osciloscope, the rising lines of a business graph and the silhouette of a businessman—symbolic of the show's theme.

Display Workshop, Inc. was formed twelve years ago by Harold P. Post, who had previously managed his own advertising agency in Hartford for many years. Today an experienced crew of designers, artists, cabinet makers, spray painters, electricians, silk screen printers, letterers, animation mechanics, work on exhibits which are shipped to every show of national importance and to many local exhibits.

The company has pioneered in the field of self-crating displays with its Fold N Pak and more recent Style-Pak.

♦ HARRY SLOAN, chairman of the board of The Cushman Chuck Company, Hartford, recently celebrated his sixtieth anniversary with the company. At a dinner honoring the occasion, directors and officers presented Mr. Sloan with an engraved silver tray and commemorative album relating the important part he played in the company's history and growth during his service. Also included are many photographs among which are of the first factory, groups of employees, and a chuck manufactured about 1876.

Mr. Sloan's permanent employment began with the company in 1899 as a workman in the factory. Two years later he was in charge of all drill chuck manufacture, and in 1914 he became superintendent and a director. In 1919, upon the death of E. L. Cushman, then president, Adrian Sloan became chairman of the board, Richard Cushman, president, and Harry Sloan, Adrian's son, first vice president. In 1928 Harry Sloan was elected to the presidency of the company. He held this office until 1952 when he became chairman and his son, the third genera-

tion, Harry E. Jr., was elected president.

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♦ THE TOOL and Die Industry of Connecticut and Western Massachusetts, in cooperation with manufacturers and governmental apprenticeship agencies, will sponsor a competition in February to test the skills of fourthyear apprentices, according to John D. Dewhurst, president of Arrow Tool Company, Wethersfield, and chairman of the Apprenticeship Training Program of the Natonal Tool & Die Manufacturers Association.

Prizes will be awarded to the six outstanding apprentices as well as the twenty-five top finalists. In addition, sponsoring companies of the winning entrants will be honored.

Firms throughout Connecticut and Western Massachusetts with an apprenticeship program registered with a public or private agency or eligible for such registration may enter their trainees in the competition. All entree nominations must be mailed no later than February 2, 1960, and should include a \$10.00 check from the sponsoring firm to cover the costs of operating the testing competition as well as prizes for the winners. Details concerning the competition may be obtained from the Central Connecticut and Western Massachusetts Tool & Die Association, 179 Allyn St., Suite 305, Hartford.

♦ THE FLEXITRONIC heat massager is a new product of The Iona Manufacturing Company of Manchester. First introduced at the 1959 National Housewares Exhibit in Atlantic City, the massager provides heat and a penetrating massage and is completely flexible.

The company reports wide use of the product for therapeutic application and for easing simple aches, pain and tensions.

The pad is encased in a soft orloncotton jacket, removable for washing. The control box is made of molded polystyrene with controls that permit massage with "lo" heat, massage with "hi" heat, heat only, or massage only.



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How Would You Decide?

By Fredrick H. Waterhouse Counsel

Are periods of layoff to be considered as "absences" in determining eligibility for vacation pay?

Here's what happened.

The labor agreement called for a stated number of hours' pay at average hourly earnings for employees who had been actively employed by the company for one year and more, immediately preceding the prescribed vacation date. without absences totaling more than thirty days during the previous twelve months. If an employee was absent more than thirty days but was otherwise eligible, his vacation pay was computed at a per centage of his straight time earnings during the pre-vious twelve months. In computing vacation allowances the company considered time on layoff as "absent." The union claimed that layoff time should not be counted as "absences."

Is an employee "absent" during lay-off?

The arbitrator pointed out that for a number of years the company, operating under similar clauses, had computed vacation allowances without including layoff time as "absences." The company claimed this was an error in the payroll department and violated specific instructions by the company. The arbitrator felt that the union had a right to require a continuation of such past practice. He pointed out that if the company had adopted its present interpretation the union might have sought a revision in subsequent negotiations, and so was entitled to have the previous practice continued.

When an employee on incentive work is permanently assigned to an hourly rated job, is he entitled to his average incentive earnings or the hourly rate of the new job?

Here's what happened.

Certain jobs were on incentive. Others were hourly rated as no incentive rates had been or probably would be established for them. Employees permanently assigned to the hourly rated jobs naturally received the rate for the job. Employees permanently assigned to incentive jobs were paid their average hourly earnings when temporarily assigned to fill in at the hourly rated jobs. The grievant was an incentive worker but had occasionally

filled in on the hourly rated jobs but had always been paid his average incentive earnings during such periods. The company then made what it considered was a permanent transfer of this employee to the hourly rated job and paid him at that hourly rate rather than at his higher average earnings earned while on incentive jobs. About ten days later he was transferred back to the incentive jobs and claimed he should have been paid at his average incentive earnings while on the hourly rated job. The company admitted that when incentive workers were temporarily required to fill in on hourly rated jobs they were paid their average incentive earnings rather than the hourly rate for the job. The company insisted, however, that when it made a permanent transfer it paid, and was only required to pay, the hourly rate for the job to which the transfer was made.

Does an incentive worker carry his average earnings along when transferred to an hourly rated job?

The arbitrator ruled that since the transfer lasted only for ten days it was not actually a transfer and so the employee was entitled to his incentive earnings during the time he filled in on the hourly rated job.

Is notice by the employee that he will be absent the day before a holiday sufficient excuse to qualify him for holiday pay when the contract says he must work the full week to qualify?

Here's what happened.

The contract provided for holiday pay for named holidays, but required employees to be "available and ready for work" Monday thru Friday when the holiday fell on Saturday. The grievant took his vacation in March and when he returned he told the supervisor that he was taking off the following May 29th which was a Friday. The supervisor said nothing at the time but on May 26th it dawned on the company that May 29th was the day before a holiday. It then told the employee that if he took the 29th off he would not be eligible for holiday pay under the contract but he said he was going to take it off anyway. He did take off the 29th and so was not given holiday pay for the 30th. The union claimed he was available and ready for work as required but had permission to take the day off so was entitled to pay. The company pointed out that he was clearly warned he would not get holiday pay if he took off the day before the holiday and since he did not work Monday thru Friday he was not entitled to holiday pay.

Is notifying the employer you are going to take a day off considered sufficient excuse to treat it as a day worked?

The arbitration board had no difficulty in deciding that whether he had permission to be off or not is immaterial as the contract makes no provision for absences with permission. The contract is clear and specific in requiring a full week's work to qualify for holiday pay and he did not qualify since he was absent on Friday.

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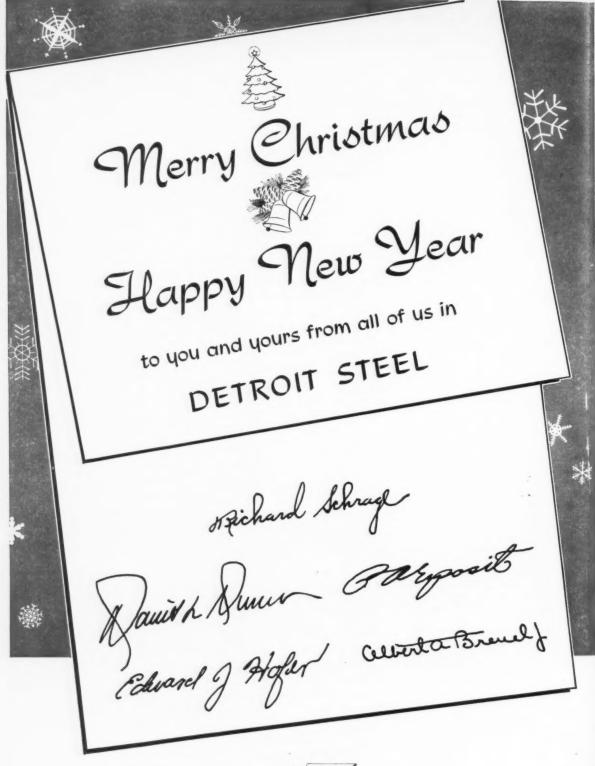
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Public Relations

By Charles E. Reiche
Public Relations Director

Evaluating Public Relations

♦ SOME people have tried to spell out in their account books the dollars and cents assets of public relations. They know what it costs in terms of cold cash and thus they want to figure out in the same terms what it adds to their holdings. This, of course, is a futile exercise which, if you insist on practicing it, will lead to complete frustration.

There are yardsticks by which you can measure the pluses and minuses of a public relations program but it is difficult, if not impossible, to translate such plus and minus totals into dollars and cents. How, for example, do you assess the improvement in your community relations which can result from a practical PR program? Can you measure it in terms so precise as to fit a dollar sign? Very unlikely. Can you apply good stockholder or employe relationships to any plausible bookkeeping practice? A dubious possibility, too.

But when we spend money on a public relations program we indeed have a right to expect that we can apply some gage to the program, some method of putting a value on it. One obvious way, of course, is to take a tape measure to all the material originated by our PR staffer and which is published in newspapers and magazines.

The way this is ordinarily done is to total the number of column inches any one story filled in the newspapers, strike an average of the advertising rates of the papers involved and then multiply the total number of inches by the average rate. Thus, if you think it makes any sense, we can say that such and such a story represents X thousand dollars worth of newspaper advertising space. This rather crude slide-rule operation, however, is something less than an accurate measure of our public relations success because it involves only the publicity side of our whole PR program.

If we will toss out the whole idea of trying to put a dollar sign on our PR effort, however, there are ways we can get a valid analysis of the effectiveness, or lack of it, of this effort.

For one thing, conversations with our community leaders—political, church, school, financial, retail and so on—will

indicate very quickly what our community status is and, more precisely, whether or not a planned public relations program is having the effect intended.

Further, conversation with our own employes will tell us to a degree, at least, what their attitudes are regarding the company. Considerable care and judgment must be used in this connection. We must be able to weigh very exactly the differences between the comments of employes who will tell us what we want to hear and the comments of those employes who are chronically "agin" the company. It is obviously naive to believe that all employes are both dispassionate and objective about the company for which they work.

Virtually the same method should be applied to all our publics. Both our customers and our suppliers will, if

questioned discreetly, probably give us a solid indication of where we stand with them and will also voluntarily or inadvertently show us ways in which our relations with them can be improved.

Our other important public, the shareowners, might best be queried by mail. It is quite true that shareowners are not an important public with many of our small, family-owned Connecticut industries. However, the majority of our stock companies are not so controlled and thus the shareowners are an important public.

A simple questionnaire sent to the stockholders asking them for opinions of the company and of ways to improve relations between it and them will undoubtedly be helpful and, more important, show just what your relations are with the shareowners.

Finally, we should pay close attention to the way our area news media—radio, TV and newspapers—treat us. Their attitudes are not always a solid indication of our public relations. In many cases they are simply an indication of the way a particular paper or radio station feels about us on a given day. Further, the news media can be relied on to ignore us or give us the "short end of the stick" in any controversy on which they and we are on opposite sides of the fence. The myth about impartiality and objectivity of the news media is just that—a myth. This





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is particularly true of many of the papers outside the metropolitan areas.

However, over the long run of weeks and months, we can judge quite well via treatment of our publicity by the media and particularly by the attitudes of the newsmen and newswomen themselves in our personal relations with them, approximately where we stand in the eyes of the whole community and region.

In general, then, the best way to evaluate our public relations program is to ask questions of our publics. Once we have the answers, we are then in a position to look at the cost of our PR work and to try to determine if the results justify the costs. This will be a perplexing and frustrating problem which can have as many answers as there are people studying the problem.

But so long as we don't make the mistake of trying to translate the results of our public relations activity into a hard-and-fast dollars and cents entry in the company books we can, sooner or later, come to an assessment of our activity; at least we can say that suchand-such has been accomplished and that it cost X dollars and that, finally, it is or is not worth what we paid. This last item, of course, is a matter of top management judgment pure and simple and thus must stand or fall on the common sense management can bring to its decision.

Showplace of **Ultra Precision**

(Continued from page 1)

matic in-cycle gaging to prevent overgrinding.

Precise in-process inspection at each machine to measure work as closely as 0.0000025-inch, which controls raceto-face dimensions to such an extreme that only one variable is present when matched races are preload ground.

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Single-cycle rough and finish internal grinding with special hydraulic clamping to reduce the number of chuckings per part.

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Centralized services with all coolant lines located in a subsurface utility room to provide uncluttered overhead area which promotes efficiency and facilitates quality workmanship.

Expansion

The area lends itself to logical expansion. Additional machine stations are available in the grinding area with power and coolant lines already in place below the floor, while the assembly area contains other planned stations for a punch press for retainers, alternate greasing arrangements or additional packaging equipment.

The Rarest Man in **Business**

(Continued from page 14)

because of what he is doing to help develop executives who are skilled in human relations. At the same time, his policies and the other spreading policies about "human relations" in industry make it much harder for a potential leader to gain the command he must have in order to lead. In most big modern corporations he already must concentrate first on getting along with people, and more and more, if Lunding's policies become general, he will be expected to learn how to serve his subordinates. The great industrial leader who emerges from this system will unquestionably be a rare specimen.



Transportation

By John B. Hedges Traffic and Export Manager

♦ AN interesting comparison of the economic well being of two major mediums of transportation was presented last month when the Interstate Commission Commerce figures covering the first two quarters of 1959 for both rails and inter-city truck lines. The railroad's gross revenues had increased, 1959 over 1958 by 11.8% with a tonnage increase of 17.4%. The 900 inter-city Class I (over \$1 million gross annual revenue) motor carriers increased their tonnage handled by 18.1% but their total operating revenues had increased by 22.5%, while their net income after taxes had gone up by 297.3%. This startling increase in net income has been general throughout the country. Only four of over sixty Class I motor carriers domiciled in New England showed operating losses for the first two quarters of 1959 and most of them had operating ratios far better than anything they had seen in years. Many operators feel that the recession of 1958 forced them to tighten up their methods of doing business and that the increased efficiency is now paying off. Others point to the use of larger units, the expansion of business throughout the area and the increasing reliance of New England industry on motor carriage.

Freight Trailer Use Expanding

The number of freight trailers riding the rails is increasing steadily. At the end of 1958 forty railroads throughout the country were offering one or more forms of trailer-on-flatcar service, usually referred to as "piggy-back." At the end of September of 1959 fifty railroads were hauling the freight trailers over their lines. Two years ago there were only two "plans" available: Plan I, which was the carriage of a motor carrier's trailer and Plan II, the handling of a railroad-owned trailer. Now there are three more. Plan III was instituted to provide flat charges for the handling of shipper owned trailers in piggyback service, with the rails being responsible only for transportation. Shipper-owned or leased trailers are moved in pairs, usually with a minimum weight of 70,000 lbs. for the pair and with some restrictions as to the commodities handled, although most charges are named in terms of "all freight." The next step was Plan IV. Here the shipper also furnishes the flat car and consequently enjoys a still lower rate. The latest is Plan V, in which rail carrier and motor carrier join in the publication of rates and the furnishing of service on a joint basis, so that a trailer loaded (rail or motor owned trailer) by a shipper moves over both services at a through

The chief advantage of these various services is that they combine the flexibility of motor transportation with the long haul economies of rail service. Although no thorough and detailed cost studies have yet been made available to the public, it seems likely that in many cases it is cheaper for the railroad to place a trailer for loading than to switch in and pull out a box car. Certainly terminal delay is greatly reduced. Trailers dispatched from New Haven on Friday night trains for Chicago arrive in railroad yards there Sunday evening and are available for delivery on Monday morning. Regular carload traffic, on the other hand, may have to be switched around in the Chicago terminal area and may not be delivered until Tuesday. Both

381 State St.

shippers and railroads agree that claim damage is very substantially lowered by use of the piggy back service. At the end of September the I.C.C. reports that for that month alone trailer-on-flat-car traffic was up 44.7% over the smilar period in 1958.

Many railroads apparently think it worth while to spend money on improving their facilities to attract this kind of business. The Pennsylvania Railroad invested \$300,000 in correcting low clearances through its Baltimore tunnels with the result that it is participating in a new Plan III arrangement with the Seaboard Airline Railway, the Atlantic Coast Line Railroad and the Florida East Coast Railroad to provide service to such Southern cities as Atlanta, Ga., Birmingham, Ala., Charlotte, N.C., Jacksonville, Miami, Orlando and Tampa, Florida.

Over the road inter-city truck lines are complaining about the level of rates charged by the rails on Plan III and Plan IV movements, saying that they constitute destructive competition. Before the Interstate Commerce Commission at the present time is a whole group of suspension and investigation cases touching upon that very issue. The rails maintain that the Transportation Act of 1958 does not require them to hold their rates up to the truck level and claim further that the slightly over 50¢ per car mile they receive from Plan III charges is desirable revenue. Demand for the specially equipped flat cars on which trailers are handled is such that their utilization factor is very high.

Strong proponents of the various trailer-on-flat-car plans claim that the ultimate answer will be containerization, with all forms of transportation using a standardized container which can be handled by any of them easily

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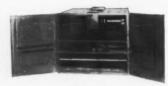
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and economically. The National Defense Transport Association has a special committee studying the feasibility of such a container and it is recommending a 20' x 8' x 8' box with proper fittings to permit handling in multiples of two or more. New cargo planes now on the drawing boards will probably be able to accommodate units of that size. Some predictions are made that within a ten or fifteen year period such containers on their flat cars will largely replace the standard box car.

Shippers Cooperative Growing

At its first annual meeting in Hartford late in October the Charter Oak Shippers Cooperative Association, Inc. reinstated its original directors and added to their number with the election of John Blomgren, General Traffic Manager of the Sargent Co., New Haven and Clifford Pearson, Traffic Manager of Bridgeport Brass, Bridgeport, Reelected as officers were: Elliott Brauch, President, Supervisor of Warehouses, Burndy Corporation, Norwalk; Felix Szumlaski, Vice-President, Traffic Manager of Fafnir Bearing, New Britain; James B. Griffin, Treasurer, Director of Traffic, Scovill Manufacturing, Waterbury; and Henry J. Rogers, Secretary, Director of Traffic, Heublein, Inc., Hartford. In his report to the membership

President Brauch pointed out that the organization was doing something for Connecticut industry beyond the 15% saving they were enjoying on their freight movements to Chicago. Traffic which formerly moved via carriers domiciled in other states is now being handled in trailer-load lots by local truckmen to the New Haven loading ramp of the New York, New Haven and Hartford, which handles the shipments over the rails. This new business for local carriers, moving on good rates, contributes to their stability. Mr. Brauch also announced that the association was making definite plans to commence a similar operation to the West Coast soon after the first of the year. Membership, he said, had tripled within a three month period with twenty-seven members currently enjoying the benefits of this kind of cooperation.

Century Old Shear: Symbol of PEXTO Quality

(Continued from page 5)

market, that has demonstrated an unchanging upswing in demand for Pexto machines and hand tools. That is the residential and commercial construction field.

One example of the many that could be given is the use of Pexto equipment by contractors for sheet metal duct work. Pexto machines are used for forming and Pexto shears are used in the fabrication of sheet metal air conditioning and hot air ducts now being installed in new buildings across the country. Pexto products, of course, are used in many other ways by the building trades. The next time you see a piece of flashing being placed around a chimney, you can safely assume it has been cut on a Pexto Shear.

Another steady and ever-increasing user of Pexto products is the manufacturer of metal products. Many of these manufacturers are discovering that Pexto machines can duplicate parts much more economically than expensive press and die equipment. Also, they can do the job without a loss of accuracy.

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Pexto's Place In Education

The Peck, Stow & Wilcox Co. is proud of the part its products are playing in training young men to become skilled workers in American industry. In Junior and Senior High Schools, in Trade and Vocational Schools, in colleges, too, the fundamentals of sheet metal working are being taught on Pexto machines. These young men are being taught on the same kind of equipment they will use when they leave school.

Pexto engineers keep the student in mind when designing new machinery and tools. Each machine before its introduction must meet rigid specifications for simplicity and safety of operations, as well as meet standard requirements for production speed and precision accuracy. Pexto takes seriously the slogan, "Education is Everybody's Job."

Pexto is continually developing new products for both industrial and educational applications. Just recently the company released for sale the newly designed Box and Pan Brake, a machine that makes boxes out of sheet metal.

Such sturdy progress must have had a sturdy beginning . . . and it did. Thus, today, Pexto shows off a symbol of its early days: the old "No 1" Foot Squaring Shear, with a blade that is still free of nicks, with an operation that continues smooth and with a cut that remains amazingly accurate.

While this original shear is now retired, there are other old Pexto machines that remain on the job, as evidenced by orders from around the world calling for parts for sheet metal cutting and forming machines built and sold prior to 1900.

But old "No 1" shear is back home for good . . . a machine that was built strong to last long—one that is symbolic of the built-in workmanship that has been a distinguishing feature of Pexto's entire line of products down through the years.

Business Tips

Do It Yourself Insurance?

By C. H. SCOTT McALISTER

Instructor in Insurance School of Business Administration University of Connecticut

♦ "Would you tell me please, which way I ought to go from here?" That depends a good deal on where you want to get to,' said the cat." This question, posed by Alice in Wonderland and answered by the Cheshire Cat, is currently being posed in similiar form by corporate management with regard to self-insurance. Self-insurance deserves periodic consideration as a possible method of achieving maximum insurance benefit for the minimum dollar outlay. Should an existing program be modified or dropped, or should a self-insurance program be created where none previously existed? Questions of this nature must be raised and answered periodically.

Under certain conditions it may be possible for a risk to be insured without transfering it to an insurance company. When this is done, the plan is commonly called self-insurance. An important distinction must be made between a self-insurer and one who does not insure at all. Noninsurance is often confused with self-insurance. Noninsurance is self-assumption of risk. Self-insurance is providing for the reduction of risk in a scientific manner.

The requisites of a self-insurance plan are (1) a large number of homogeneous exposure units under one ownership, (2) with such exposure units being independant from one another in order to reduce catastrophic loss, and (3) financial strength sufficient to meet adverse loss experience and to maintain adequate reserves.

The operation of a self-insurance plan calls for the contribution to a fund of a regular periodic premium, scientifically calculated to pay losses when they occur. No company is totally self-insured in any given area until the insurance reserve fund has been built up to a size adequate to cover reasonable loss likely to occur. Until that point is reached, the company should provide adequate insurance through regular underwriters.

Insurable risks are carried by the insured himself with the object of reducing costs. Losses are not necessarily reduced by self-insurance, but one receives thereby any benefits that

may arise from the reduction of losses.

Often in large risks that are experience-rated (compensation and liability) commercial companies in effect say, "We will accept no risk from you. We will service your losses, but you must pay for them in full; and, of course, you must pay for our services besides." If the insured is able to perform these services (audit, claims administration, engineering and loss prevention) as efficiently as the commercial carrier can perform them, he may find attractive savings in a self-insurance program.

While there is a question as to whether or not a self-insurer can provide as complete a service as the commercial carrier, in many cases he can provide this service more rapidly and efficiently with respect to his particular operation. This is of particular benefit in the area of claim investigation and settlement.

Another favorable consideration in most self-insurance programs is flexibility. The self-insurer is not bound by insurance policy terms and considerations. He may develop, consistent with sound accounting practice, such accounting measures as he sees fit to use. He may pay claims that would usually remain unpaid, if public relations or other considerations should so dictate. The self-insurer may insure to some extent risks that are normally considered uninsurable.

One disadvantage of self-insurance, particularly in Workmen's Compensation, is the lack of an impersonal claim service. A delicate situation is created between employer and employee when the employer denies a claim as a self-insurer. This same claim denied by the commercial carrier may not create the ill will that would otherwise be involved.

Self-insurance might create an additional income tax burden. Contributions to a self-insurance plan are not deductible as a business expense. Only losses paid from the fund are deductible. Premiums paid to commercial carriers are deductible for tax purposes in



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the year paid. Thus, with self-insurance the insurance deduction is seldom, if ever, constant, whereas it would be more so with commercial coverage.

Self-insurance without excess insurance may be very unsafe in the event of a catastrophe loss. Excess coverage may be difficult to obtain.

In the final analysis, the management of any self-insurance program will be an all important factor in its success. Quite often the failure of a self-insurance program may be laid directly at the door of those responsible for the management of such a program. Commercial carriers, on the other hand, usually have adequate insurance management. Today, there are insurance management consulting firms who specialize in the management of selfinsurance programs on a fee basis. This may be used as a method of overcoming management shortcomings.

In conclusion, if a proposed self-insurer cannot expect dollar savings after having met the requisites of a self-insured program, nor show other unmeasurable benefits, he would do better to insure with a commercial

carrier.

Exhibitors Build Good Will at Connecticut Building

(Continued from page 9)

ers for which it wasn't even looking. Its primary motive in building its exhibit around the company's industrial brush division was to inform the public, already familiar with Fuller household brushes, of the company's broad diversification. Fuller Brush succeeded in this purpose but it also uncovered, as had Stanley, a number of prospects for its industrial brushes who had never visited the trade shows. In addition, among the 425,000 visitors there were persons who approached the Fuller exhibit manager with problems in their own industries analogous to those for which the printed circuit scrubber was designed. Result: Fuller Brush found some new uses to which its industrial brushes are adaptable.

Giant-Vac Manufacturing Company of South Willington reported that its own top benefit from participation in the exposition was the variety of new uses suggested by interested spectators.

Customer Appeal and Good Will

The A. C. Gilbert line of American Flyer trains and space age science toys certainly won't be forgotten when some of the large-eyed youngsters who visited the exhibit write their letters to Santa Claus. However, it was the opportunity to talk face to face with thousands of its customers, past, present

and certainly future, that impressed one Gilbert official who spent many long but satisfying hours at the booth, "There are always those questions that they won't write about, but that they're glad enough of a chance to ask," he explained; and again, it was clear that the answers added up to greatly increased good will for the company.

Farm House Frozen Foods, baking its pies on the spot, intrigued both the eyes and the nostrils; and indeed, teased the sense of taste which it was unfortunately impossible to satisfy under the circumstances. In answer to direct questions, face to face, facts about the quality of ingredients and the care taken in the preparation of Farm House products carried a conviction and a persuasiveness difficult to duplicate in an impersonal advertising message. In the future, however, the ads will arouse memories of a fragrance that will add a Farm House item to the shopping list for the next trip to the frozen food counter.

Non-Manufacturing Exhibits

Nine non-manufacturer exhibits rounded out the state's representation in the Connecticut Building. Listed among them were Idle Wild Farm of Pomfret Center, Erdin Organ Company, Connecticut Florists Association and Bristol Nurseries.

Finally, there was the exhibit of the Connecticut State Police including a Civil Defense display. People watched a series of rotating slides on the state trooper's training at the Police Academy at Bethany; they studied the collection of firearms used by the troopers; they gazed at a teletype clicking out messages from Police Headquarters to barracks and from barracks to headquarters; but what really fasicinated them was the operating dispaly of highway radar detection. A TV screen at the booth showed the traffic as it was being picked up by a camera mounted on a light pole on a nearby highway. As each vehicle approached, its radarmeasured speed was recorded on an exact speed device beside the screen. Carefully selected troopers were present at all times to answer questions, and they most assuredly got questions -from crowds often six and seven

Out of it all there came for the State Police as well as for every other exhibitor, better understanding and increased good will. If it had been otherwise, there would have been something wrong. To be able to meet face to face literally hundreds of thousands of persons and to talk to them about your product or your service—that is a rare public relations opportunity, the most direct possible way of creating good

Accounting Hints

Contributed by

The Hartford Chapter National Association of Accountants

Disclosure of Long-Term Leases

By GORDON W. TASKER, C.P.A.

Hartford, Connecticut

♦ WHAT information concerning leases should be disclosed in the Company's annual report to Stockholders? Reviewing a sample selection of reports, one can find in some reports complete information concerning the leases held by the Company for the rental and use of property. In other reports there is absolutely no mention made of leases. In todays business climate where the cost of borrowed money is considerably higher than it was a decade ago, and where leasing instead of ownership is becoming commonplace, it behooves us to consider the requirements for the disclosure of such information.

Rule 3.18 of Regulation S-X, which governs the form and content of financial statements required to be filed with The Securities and Exchange Commission under certain congressional acts, requires the disclosure of rentals or obligations under long-term leases where the amounts are material. Furthermore, the periods of payment there-under are to be furnished along with any important obligation assumed or guarantee made in connection therewith. Research Bulletin No. 38, issued in 1949 by the American Institute of Certified Public Accountants, called for disclosure, under circumstances discussed therein, of long-term leases in the financial statements of lessees. Since that date we have all seen a tremendous growth in the amount and types of property falling under lease agreements.

What is the criterion to be followed in considering a lease as short-term or long-term? Some consider a lease longterm if it may not be terminated within one year from commencement; whereas, others consider a lease running three or more years as long-term.

It is a matter of judgment as to when the amount of an obligation under the terms of a lease is considered material. If we assume that an obligation equal to or in excess of five per cent of total assets or the annual rent in excess of five per cent of total expenses is material, then we have a guide. A

company may be a party to three individual long-term leases, the obligation under any one lease being less than five per cent of assets but the total of all three equal to five per cent or more. Disclosure of all three leases would be required by our yardstick.

What information concerning a lease should be furinished, assuming leasehold disclosure is considered pertinent? Certainly an indication of the property leased and the term thereof is desirable. Failure to indicate the annual rental amount and other obligations assumed or guaranteed does not enable the reader to evaluate the financial effect of the lease, so disclosure thereof should be considered necessary.

Consideration must also be given to disclosure of any other information concerning the lease, the omission of which might be considered misleading in view of the information furnished.

It is interesting to note in the twelfth edition of "Accounting Trends and Techniques," published by the Ameri-can Institute of Certified Public Accountants which contain a summary of the accounting methods and presentation reflected in annual reports for 1957 of some 600 industrial and commercial corporations, that only 225 of the survey companies indicated the existence of long-term leases. Only 91 of these corporations provided in one degree or another the details of the leases, such as annual rent, term, number of leases, renewal options and other pertinent data. Are we to assume the obligations of the other 134 companies were not considered material? If so, why refer to or indicate the existence of the leases? However, I think it reasonable to assume that the obligations under the leases were significant and that disclosure of their existence was considered necessary. The balance of the company reports surveyed did not refer to or indicate long-term leases.

What form of disclosure is required or considered desirable? The information relative to leases has been disclosed predominantly through the medium



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1883 Dixwell Ave. HAMDEN ATwater 8-1641 25 Olds Place HARTFORD CHapel 9-6515 Railroad Ave. NORTH HAVEN CEdar 9-1621 So. Leonard St. Ext. WATERBURY PLaza 5-2259 1223 Main St. WILLIMANTIC HArrison 3-7249 of notes to financial statements as compared with the letter to stockholders or text portion of the annual reports. One must bear in mind that the footnotes to financial statements are considered an integral part thereof, while, as a general rule, comments made in the narrative section of the report are not. However, where a lease agreement is, in effect, an arrangement for the installment purchase of property, disclosure of such lease by means of a footnote is not considered appropriate disclosure. Under such an arrangement, proper accounting treatment and presentation requires the inclusion of such property in the assets of the company, as reflected in the balance sheet, and any unpaid obligation in connection therewith as a liability. The income statement would reflect a depreciation charge for the use of the property in the business instead of a rental fee.

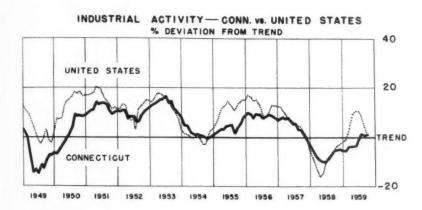
It is conceivable that future accounting standards and principles will require that some portion, if not all, of the obligations and commitments of an organization under lease agreements be included among the liabilities as stated in the balance sheet. Such a requirement will undoubtedly receive more and more consideration due to the widespread use of long-term leases as a method of financing. One is aware that "Fixed Charges," as it applies to earnings summaries in relation to Form S-1 and Form S-9 of The Securities and Exchange Commission, is defined by the S. E. C. as including "an appropriate portion of rentals under long-term leases." Under the goingconcern concept in the valuation of the financial position of a business, it perhaps is fact that many types of leases can be cancelled within a short period of time and the obligations thereunder terminated. However, one can assume that the lease covered the use of property necessary to the conduct of the business and, therefore, the use of similar property must be obtained in the event of lease termination. The use of similar property as a general rule can be obtained only through the acquisition of property by the medium of purchase or lease.

The purpose of financial statements is one of disclosure and hence the statements are only the vehicle for the dissemination of financial information. If financial statements better serve their purpose by the inclusion of lease obligations, or a portion thereof, among the liabilities instead of as a comment in the footnotes thereto, such presentation should be considered. The argument as to whether or not the obligations thereunder are, or are not, debt is secondary to the prime purpose of proper presentation of financial information.

Business Pattern

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the second previous month.

Business Up Slightly In September



♦ THE nationwide steel strike temporarily has stemmed the upward trend experienced since June 1958 in the Index of Industrial Activity in Connecticut. In the last two months, gains in manufacturing and construction employment have just about offset decreases in hours worked and electric sales. For September, the Index was +1.2%.

Despite the recent leveling, the outlook for Connecticut, assuming no prolonged layoffs due to steel or other strikes, is for continuing moderate improvement through most of next year.

The United States Index has declined steadily during the record breaking strike and by September was down to +1%. The high point in the recovery from the recent recession was reached in May and June this year when the Index was over 10 points above trend.

Work Stoppages

Connecticut has been affected less by the steel strike than the nation as a whole because relatively few Connecticut residents are directly employed in steel making. Lost time in the nation has increased sharply since the start of the strike in July. Time lost in Connecticut has risen only moderately and by September involved

3,000 workers. This was far from the peak of last April when 20 separate strikes kept 10,000 workers away from the job.

Strikes caused a loss of about 1.4% of total national work time in August this year compared with 1.5% in July 1956 at the peak of the then current steel strike. However, the 1956 shutdown affected only one month. The present stoppage will have kept lost time at a high level at least from July through early November.

Gross National Product

Gross National Product decreased \$3.5 billion in the third quarter of 1959 to \$481 billion on an annual basis.

Because of the steel strike, business inventory buildup has been at a much reduced pace. In the third quarter, inventories grew at a \$1 billion yearly rate compared with a \$10 billion increase in the second quarter.

Exclusive of inventory accumulation. GNP increased at almost a \$6 billion annual rate in the third quarter. While this is below the \$10 billion annual growth for the second quarter it is, nevertheless, quite high in the face of the nationwide steel strike.

For the final quarter of this year, (Continued on page 52)

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Jim Dwyer fumed, "My firm's insured against catastrophes, But I've got more insurance men than I have employees! And when my cash position's bad, a premium bill comes due; Suppose I made a claim and had forgotten to renew!"



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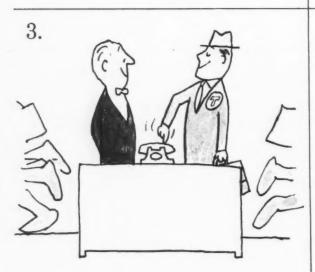
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As if divining Dwyer's thoughts, a Travelers man appeared; "Confusion's reign is over now that we have volunteered. The Travelers handles every policy—no danger gaps; Rely on me to guard you from a messy memory lapse."



"So far you've been Aladdin's genie," Dwyer answered then,
"Just tell me how to pay for it and I will say 'amen'."
"One plan, one man to telephone if ever you're a claimant—
And everything is covered by a single monthly payment."



One plan, one payment, just one man and not a multitude— Can anyone deny The Travelers merits gratitude? Imagine—life, equipment, property—this painless plan Leaves working capital intact—so ask a Travelers man.



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Spotlight on the Future

Contributed by National Association of Purchasing Agents By Chester F. Ogden, Manager of Purchases The Detroit Edison Company

General Business Conditions

The results of the steel strike are now being felt by most industry and in all areas of the country. We are facing an extended period of adjustment. Not only will it take time to get furnaces repaired and steel mills again operating at capacity, but it will also take time to replenish inventories to enable fabricators to get back to volume output. We have about reached the end of the line in maintaining production by imports, special purchases, swaps and other ingenious methods of bolstering thinning inventories.

Reflecting this situation, 24% of our members say their production is off from last month, (not since the Spring of 1958 have so many been in this category); 47% state there is no change, and 29% report increases.

New orders continue to be weaker than in many months with 28% reporting improvements, 45% no change, and 27% a decrease.

There is not much change in commodity prices, but the slight movement is upward—largely the result of premium prices for strike created short supply items. Employment to date has held up remarkably well. However, many believe we are just on the threshold of a rash of shortened work weeks, layoffs and shutdowns.

A cautious attitude is prevalent in buying policy and purchasing executives are maintaining a flexible position so that they can rapidly extend or contract commitments as the future business picture becomes more clear.

Inventories are again down. Our special question this month sought to determine the likely trend of purchased material inventories in the months ahead. Excluding steel items, it appears as if there will not be any general move to increase inventories with the settlement of the steel strike. 66% reported they would strive to hold purchased inventories at their present level, 19% will effect further reductions, and only 15% plan to add to their stocks on hand.

Inventories

Steel and products made from steel constitute a substantial bulk of the purchased materials inventories of American industry. With no replenishment of these items, we would expect inventory balances to be low-and they are. October figures show the lowest balances for 1959. While 43% report no change from September, 42% say their inventories are lower. By far, most emphasize that steel is the basic reason for this. While there is some real concern over the critical steel situation, most buyers would not want to add substantially to their inventories of other than steel items at this

Employment

In spite of the decline in gross national product figures, employment, surprisingly, continues to hold at good levels. While this month's 24% who report less employment is up 5% from last month, it is still a long way from the 57% in this category during the low employment period of 1958. Again in October, 18% say they have more people employed than in the previous month. However, many believe we are right at the brink of a decline. They expect a rash of reduced work week hours, layoffs, and shutdowns in the immediate period ahead. This leads to much concern about the effect on holiday retail sales.

Specific Commodity Changes

There are many more steel items on the critical list this month. The general steel situation has so monopolized our attention that price increases in other items are slipping by without the usual concern we might otherwise show.

On the *up* side are: Copper, lead, steel scrap, zinc, corrugated cartons, kraft paper, linseed oil, natural rubber, some electrical equipment and phthalic anhydride.

On the *down* side are: Turbine generators and some localized price breaks due to special circumstances are reported, but these are too scattered or few to report as trends.

In short supply are: An increasing number of steel items, chrome, coal chemicals and phthalic anhydride.



(Composite opinion of purchasing agents who comprise the N.A.P.A. Business Survey Committee, whose Chairman is Chester F. Ogden, Vice President, The Detroit Edison Company, Detroit, Michigan)

IT'S MADE IN CONNECTICUT

EDITOR'S NOTE: This department, giving a partial list of peace-time products manufactured in Connecticut, seeks to facilitate contacts between prospective purchasers in domestic or foreign markets and producers. It includes only those listings purchased by Connecticut manufacturers. Interested buyers may secure further information by writing this department. Listing rates (12-time insertions only): \$6.00 for single listing. When several listings are ordered for insertion at the same time following multiple rates apply: \$10 for two and \$2.00 each beginning with the third.

each beginning with the third.
Abrasives Fuller Merriam Company The (Vitrified, Resinoid Bonded Grinding Wheels & Segments) West Haven
Absorbents Nielsen & Sons Inc. John R (oil water and gresse) South Windsor
Accounting Forms Baker-Goodyear Co The Branford
Underwood Corporation Bridgeport
Underwood Corporation Bridgeport
Adhesives Polymer Industries Inc Springdale Raybestos Division Raybestos-Manhattan Inc Bridgeport
Advertising Mats Lockwood Sons Inc Wm H Hartford
Advertising Plates Lockwood Sons Inc Wm H Hartford
Advertising Specialties H C Cook Co The Ansonia
Air Compressors Dunham-Bush, Inc. Spencer Turbine Co The Air Conditioning
Dunham-Bush Inc Norwalk Airconditioning Corp South Norwalk Air Ducts
Wiremold Co The (Retractable) Hartford
Peabody Engineering Corporation Stamford
Air Impellers The Torrington Manufacturing Co Torrington Aircraft
Sikorsky Aircraft Division United Aircraft Corporation (helicopters) Bridgeport
Chandler Evans Div Pratt & Whitney Co Inc (Piston and Jet Engine Accessories—Carbu- retors, Fuel Controls, Afterburner Regula- tors, Pumps, Servomechanisms and Protek Plugs) West Hartford Consolidated Controls Corp Bethel Fenn Mfg Co The (Hardened and Ground Gear assemblies) Newington Gabb Special Products Inc (filler caps—pres- sure fuel servicing systems) Windsor Locks Hamilton Standard Div United Aircraft Corp (propellors and other aircraft equipment) Windsor Locks
Aircraft Engine Timing Tools Gabb Special Products Inc Windsor Locks
Aircraft Engine Details Hartford Machine Screw Co Div of Standard Screw Co Hartford New Haven Trap Rock Co The Machine Products Div North Branford
Aircraft Engines Lycoming Division Avco Canufacturing Corp Stratford
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) Aircraft East Hartford
Aircraft Fasteners Bland Buner Co The Thread Products Div Hartford
Hartford Machine Screw Co Div of Standard Screw Co Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury
Aircraft Instruments Gorn Electric Company Inc Stamford
Aircraft—Repair & Overhaul Airport Department Pratt & Whitney Aircraft Division Rentschler Field East Hartford
Aircraft Studs and Bolts Hartford Machine Screw Co Div of Standard Screw Co Hartford
United Manufacturing Co Division of The W L Maxson Corp
Alumilite Aluminum Sheets Leed Co The H A Hamden
Norlee Aluminum Prod Corp Bloomfield

Aluminum Bronze Castings Knapp Foundry Company Inc Guilford
Aluminum Castings Eastern Malleable Iron Company The
Newton-New Haven Co West Haven
Aluminum Die Castings Mt Vernon Die Casting Corporation Stamford Stewart Die Casting Div. Stewart-Warner Corp. Bridgeport
Aluminum Extrusions Bridgeport Brass Company Bridgeport
Aluminum Fergings Bridgeport Brass Company Consolidated Industries Inc West Cheshire Scovill Manufacturing Company Waterbury
Aluminum Ingots Lapides Metals Corp New Haven
Aluminum Sand Castings Bridgeport Deoxidized Bronze Corp Bridgeport
Aluminum—Sheet and Rod Scovill Manufacturing Company Waterbury
Aluminum—Sheets & Coils United Smelting & Aluminum Co Inc New Haven
Norlee Aluminum Prod Corp (combination and prime) Bloomfield
Ammunition Winchester-Western Div Olin Mathleson Chemical Corp New Haven
Fenn Mfg Co The (Dow 17) Newington
Aluminum Finishing Co. Leed Co The H A Bridgeport Hamden
Anodizing Equipment Enthone Inc New Haven
Asbestos Auburn Manufacturing Company The (gas- kets, packings, wicks) Middletown
Asarcon Bronze Derby Castings Company, The Knapp Foundry Company Inc bearing stock) Seymour (bushing & Guilford
Assemblies—Small Barnes Co The Wallace Div Associated Spring Corp Bristol
Hartford Machine Screw Co Div of
Standard Screw Co Stanley Humason Inc J H Sessions & Son Hartford Forestville Bristol
Audio-Visual Equipment Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors; 35mm filmstrip and sound slide film projectors) Plainville
Automatic Buffing & Polishing Machines Harper Buffing Machine Company The East Hampton
Auto Cable Housing Wiremold Company The Hartford
Sperry Products Inc Danbury
Automatic Control Instruments Bristol Co The (temperature, pressure, flow, humidity, time) Waterbury

pp Foundry Company Inc Guilford	Eis Manufacturing Company Middletown
Aluminum Castings ern Malleable Iron Company The	Bag Sealing Machines Derby Sealers Inc Derby
ton-New Haven Co Naugatuck West Haven	Bakelite Moldings
Aluminum Die Castings	Watertown Mfg Co The Watertown
Vernon Die Casting Corporation Stamford vart Die Casting Div. Stewart-Warner erp. Bridgeport	Abbott Ball Co The (steel bearing and burnishing) Hartford
Aluminum Extrusions geport Brass Company Bridgeport	Hartford Steel Ball Co The (steel bearing and burnishing, brass, bronze, monel, stainless aluminum) Hartford
Aluminum Forgings geport Brass Company Bridgeport solidated Industries Inc West Cheshire	Kilian Steel Ball Corp The Hartford New Departure Div of General Motors (steel and steel alloys) Bristol
ill Manufacturing Company Waterbury Aluminum Ingots	Pioneer Steel Ball Company Inc (steel for bearings, burnishing, graining; also brass,
ides Metals Corp New Haven Aluminum Sand Castings	bronze and stainless) Superior Steel Ball Co Inc (steel bearings & burnishing material) New Britain
geport Deoxidized Bronze Corp Bridgeport	Banbury Mixers
Aluminum—Sheet and Rod rill Manufacturing Company Waterbury	Farrel-Birmingham Company Inc Ansonia
Aluminum—Sheets & Coils ted Smelting & Aluminu Co Inc New Haven	Barrels Abbott Ball Co The (burnishing and tumbling) Hartford
Aluminum Windows	Enthone Inc (tumbling) New Haven Esbec Barrel Finishing Corp (burnishing &
lee Aluminum Prod Corp (combination and rime) Bloomfield	tumbling) Hartford-Steel Ball Co The (tumbling)
Ammunition chester-Western Div Olin Mathieson Chem- al Corp New Haven	King Co Alfred B (tumbling and plating) North Haven
Anodic Coating n Mfg Co The (Dow 17) Newington	Rolock Inc Baskets—Wire Fairfield
Anodizing minum Finishing Co. Bridgeport	Bearings Barden Corporation The (ball) Danbury
d Co The H A Hamden Anodizing Equipment	Fafnir Bearing Co (ball) New Britain Marlin-Rockwell Corporation Plainville
hone Inc Asbestos New Haven	New Departure Div of General Motors (ball) Bristol Norma-Hoffman Bearings Corp (ball and
ourn Manufacturing Company The (gas- ets, packings, wicks) Middletown	roller) Stamford Torrington Co The Torrington
Asarcon Bronze by Castings Company, The Seymour	Bellows Assemblies
up Foundry Company Inc (bushing & Guilford	Bridgeport Thermostat Div Robertshaw— Fulton Controls Co Milford
Assemblies—Small nes Co The Wallace Div Associated Spring orp Bristol	Bellows—Metallic Bridgeport Thermostat Div Robertshaw—
ist Manufacturing Co The New Haven tford Machine Screw Co Div of	Fulton Controls Co Milford Bells
tandard Screw Co nley Humason Inc Sessions & Son Hartford Forestville Bristol	Bevin Brothers Mfg Co N N Hill Brass Co The East Hampton
Audio-Visual Equipment	Belt Fasteners Saling Manufacturing Company (patented self-
tor Animatograph Corp a div of Kalart 16mm sound and silent projectors; 35mm Imstrip and sound slide film projectors)	aligning) Unionville Belting
Plainville	Hartford Belting Co Hartford
automatic Buffing & Polishing Machines rper Buffing Machine Company The East Hampton	Russell Mfg Co (High Speed Endless, Lami- nated Rubber, Roll Stock all types) Middletown
Auto Cable Housing remold Company The Hartford	Bends—Pipe or Tube National Pipe Bending Co The New Haven
Automatic Assembly Machines Products Inc Danbury	Bicycle Sundries Torrington Co The Torrington
Automatic Control Instruments stol Co The (temperature, pressure, flow, numidity, time) Waterbury	Blacking Salts for Metals Enthone Inc New Haven
Automobiles—Children's wercar Company Mystic	Mitchell-Bradford Chemical Co Milford Black Oxide Finishing Black Oxide Inc New Britain
Automotive Bodies tropolitan Body Company Bridgeport	Black Oxide Inc New Britain Black Oxide Treatment
Automotive Parts	Bennett Metal Treating Co The Elmwood
fulton Controls Co (automobile thermo- stats) Milford Manufacturing Co (Hydraulic and Me-	Blades Capewell Manufacturing Company Metal Saw Division (hack saw and band saw) Hartford
chanical) Middletown	Howard Company (cupola fire clay)
yoestos Division or Raybestos-mannatum inc (Brake Lining, Lined Brake Shoes, Clutch Facings, Automatic Transmission Parts, Fan Belts, Radiator Hose and Miscel- aneous Rubber) Bridgeport	New Haven
aneous Rubber) rryville Mfg Co The (stampings for auto- motive parts) Bridgeport for auto- Terryville	Spencer Turbine Co., The Hartford
Automotive & Service Station Equipment ovill Manufacturing Company (Canned Oil	Colonial Blower Company Spencer Turbine Co The Hartford (Advt.)
Dispensers) Waterbury	(Adve)

Automotive Tools
Eis Manufacturing Company

Colo Ripl Ven

Bige

Atra Feld

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Cont Co Merr fit: Midd War an Se

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Atla: Brid: Carp

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Blower Systems Colonial Blower Company Plainville Middletown Plainville Ripley Co Ventilating Supplies Inc Blower Wheels Torrington Manufacturing Company The
Torrington Blueprints and Photostats

Joseph Merritt & Co Hartford Boilers Bigelow Co The
Boils and Nuts
Clark Brothers Bolt Co
Hartford Machine Screw Company
Div of Standard Screw Co
Torrington Co The New Haven Milldale Hartford Torrington Boring Tools
Atrax Company The (solid carbide) Newington Feldman Glass Co. The New Haven Bird & Son Inc
Continental Can Co., Boxboard and
Folding Carton Division
Federal Paper Board Co Inc
Montville, New Haven
Lydall & Foulds Paper Co The
New Haven Board & Carton Co
Rox Co
Rox Co
Rox Co
New Haven
Montville Boxes
Bird & Son Inc (corrugated, solid fibre, cleated
New Britain containers)
Connecticut Container Corporation Connecticut Container Corporation
New Haven
Continental Can Co., Fibre Drum and
Corrugated Box Division
Merriam Mfg Co (steel cash, bond, security,
fitted tool and tackle boxes)
Middletown Mfg Co (metal)
Warner Bros Co The (Acetate, Paper, Acetate
and Paper Combinations, Counter Display,
Setup)

Boxes and Crates

New Haven
Apper Container
Bridgeport
Bridgeport Setup)

Boxes and Crates
City Lumber Co of Bridgeport Inc The
Bridgeport Boxes—Folding
Leshine Carton Co Branford Boxes-Metal Durham Mfg Co.

Merriam Mfg Co (Bond and Security, Cash and
Utility, Personal Files and Drawer Safes)

Durham
Durham Utility, Persona: Fried Durham
Scovill Manufacturing Company (aluminum, brass, bronze, copper-cosmetic, drug, hair pin, ointment, pill, powder, rouge, vanity)
Waterbury Boxes—Paper—Folding
Atlantic Carton Corp
Bridgeport Paper Box Co
Carpenter-Hayes Paper Box Co
East Hampton Carpenter-Hayes Paper Box East Hampson.
Continental Can Co., Boxboard and Folding Carton Division Montville
Curtis & Sons Inc S Sandy Hook
Folding Cartons Incorporated (perfectly Versailles Bristol Mills Inc H J
National Folding Box Co Div Federal Paper
Board Co Inc (paper folding)
New Haven and Versailles
New Haven Co The
New Haven
Robertson Paper Box Co
Warner Bros Co The
Warner Bros Co The
Bristol
Robertson Co The
New Haven
Montville
Bridgeport Boxes—Paper—Setup
Bridgeport Paper Box Co
Heminway Corporation The
Mills Inc H J Bridgeport Waterbury Bristol New Haven Bridgeport rouse Adler Company The Burners—Gas and Oil
Peabody Engineering Corporation (Combined) Brake Cables Eis Manufacturing Co Middletown Burners—Refinery
Peabody Engineering Corporation
and Oil) Brake Linings

laybestos Division of Raybestos-Manhattan
Inc (Automotive and Industrial) Bridgeport
ususell Mfg Co (all types, Fused Fabric,
Durak, Wireback, Extruded) Middletown Abbott Ball Co The (Burnishing Barrels and Burnishing Media) Hartford Pioneer Steel Ball Company Inc other metallic shapes) Unionville Brake Service Parts
Eis Manufacturing Co Middletown Brass & Bronze
American Brass Co The (sheet, wire, rods.
Waterbury Burs
Atrax Company The (carbide) Newington
Pratt & Whitney Co Inc (carbide and HSS)
West Hartford tubes)

Bridgeport Rolling Mills Company (coll, sheet,
Bridgeport strip)
Bristol Brass Corp The (sheet, wire, rods)
Bristol Business Forms
Connecticut Manifold Forms Co. The
West Hartford Chase Brass & Copper Co Waterbury
Miller Company The (phosnhor
brass in sheeta, strips, rolls)
Plume & Atwood Mfg Co The
Thomaston
Thomaston B Schwanda & Sons Staffordville
Frank Parizek Manufacturing Co The Putnam
Patent Button Co The
Scovill Manufacturing Company (Uniform and
Tack Fasteners)
Waterbury Companies Inc (Uniform Afancy
Dress)
Waterbury Ford Manufacturing Company Waterbury Thomaston Waterbury Marchael Company Waterbury Waterbury Waterbury Mathieson Ma Western Brass Mills Div of Olin Mathieson Chemical Corp (sheet, strip) New Haven

Brass & Bronze Ingot Metal Mitchell Smelting & Refining Co Inc Botsford Plume & Atwood Mfg Co The Thomaston Whipple and Choate Company The Bridgeport Cabinet Work Hartford Builders Finish Co Cable—Asbestos Insulated
Rockbestos Products Corp New Haven Cable-Interlocked Armor Bridgeport Brass, Bronze, Aluminum Castings erby Castings Company, The Sey fictors Brass Foundry Inc Gui General Electric Company Seymour Guilford Brass Goods
American Brass Company The Waterbury
Plume & Atwood Mfg Co The (to order)
Waterbury Cable-Nonmetallic Sheathed Cable—Service Entrance
General Electric Company Bridgeport Rostand Mfg Co. The (Ecclesiastical Brass Wares) Milford Cages
Andrew B. Hendryx Co The (bird and animal) Scovill Manufacturing Company (to order)
Waterbury Western Brass Mills Div Olin Mathieson Chemical Corp New Haven Cams American Cam Company Inc
Hartford Special Machinery Co The
Rowbottom Machine Company Inc
Waterbury American Brass Company The
Chase Brass & Copper Co
Plume & Atwood Mfg Co The
Scoviil Manufacturing Company
Seymour Manufacturing Co. The
Western Brass Mills Div Olin Mathieson Chemical Corp Cams, 2 Dimensional astries, Inc W Mallory Industries, Inc Parker-Hartford Corporation Cams, 3 Dimensional
Mallory Industries, Inc West Hartford
Parker-Hartford Corporation Hartford Brick-Building

Donnelly Brick Co The New
Stiles Corp subsidiary of Plasticrete New Britain rete Corp North Haven Capacitors

Electro Motive Mfg Co Inc. The (mica & trimWillimantic Bricks-Fire Howard Company New Haven
Mullite Works Refractories Div H. K. Porter
Co Inc Shelton Carbide Drawing Dies
State Products Co (eyelet special shape dies)
Oakville Mullite V Co Inc Bright Wire Goods
Sargent & Company (Screw Eyes, Screw Hooks, Cup Hooks, Hooks and Eyes, C H Hooks)
New Haven Carbide Shape Dies Thomaston Tool & Die Co (any form) Broaching Hartford Special Machinery Co The Hartford Carbide Tools
Atrax Company The (solid)
Precision Tool & Die Co Bronze & Aluminum Castings
Knapp Foundry Company Inc (rough or machined) Guilford chined)

Bronze Sand Castings

Bridgeport Deoxidized Bronze Corp

Bridgeport Carbon Pile Type Resistors
Engineered Metals Manchester Brooms—Brushes
Fuller Brush Co The Hartford Buckles B Schwanda & Sons B Schwanda & Sons
Hawie Mfg Co The
North & Judd Manufacturing Co. New Britain
Patent Button Co The
Risdon Manufacturing Co John
M. Russell Div
Naugatuck Staffordville Wassell Organization Inc Buffing & Polishing Compositions Apothecaries Hall Company Division The Hubbard Hall Chemical Company Waterbury Lea Mfg Co Waterbury Building Materials
City Lumber Co of Bridgeport Inc
Bridgeport Plume & Atwood Mfg Co The (kerosene oil lighting) Burners -Automatic Peabody Engineering Corporation Stamford Burners—Coal and Oil Peabody Engineering Corporation (Combined) Stamford Burners—Gas
Peabody Engineering Corporation (Blast Furnace Stamford

Stamford

Stamford

Buttons

Card Clothing
Standard Card Clothing Co The (for textile
Stafford Springs Card Indexes Westport Carpenter's Tools
Sargent & Company (Planes, Squares, Plumb
Bobs, Bench Screws, Clampa and Saw Vices)
New Haven Carpets and Rugs
Bigelow-Sanford Carpet Co Thompsonville Carton Closure Equipment
Better Packages Inc ("Tape-O-Matic," "Better Casters
Bassick Company The (Industrial and General) Castings
Connecticut Foundry Co (grey iron)
Rocky Hill Connecticut Malleable Castings Co. (malleable New Haven Stratford Connecticut Malleable Castings Co. (malleable (iron castings)

New Haven Stratford Eastern Malleable Iron Company The (malleable iron, metal and alloy)

Farrel-Birmingham Company Inc Naugatuck (Mechanite Nodular Iron, Steel)

H R Engineering Laboratories Inc (centrifugal, steel moid)

Hartford Electric Steel Corp The (carbon, low alloy and stain,eas steel castings)

Hartford Malleable Iron Fittings Co (malleable iron and steel)

Branford Malleable Iron Fittings Co (manufacture)

Malleable Iron Fittings Co (manufacture)

McLagon Foundry Co. (grey iron)

New Haven

Newton-New Haven Co (manufacture)

West Haven

Branford

Branford

West Haven

Branford

Branford

Branford

Branford

Branford

Branford

West Haven

Branford

Branfor Nutmer Crucible Steel Co (steel)
Plainville Casting Company (gray, alloy and black tensile irons)
I tensile irons
I tensile ir Nutmer Crucine South Plainville Casting Company (gray, alloy and Plainville Philbrick-Booth & Spencer Inc Producto Machine Company The Scovill Manufacturing Company Bronse?

Turner & Seymour Mfg Co The (gray iron. semi steel and alloy)
Union Mfg Co (grey iron & semi steel New Britain Waterbury Foundry Company The (highway & Sash weights)
Wilcox Crittenden & Co Inc (gray iron and brass)

Castings—Investme Arwood Precision Casting Corp -Investment Groton

(Advt.)

Hartford

Bridgeport

Thomaston

Newington

1

Stanle

MHI

Crysta Design uct

Smith

Parson

Dictar Gray Sound

C& F

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		14 5 6 1 1 6 6 1
Cements—Refractory Mullite Works Refractories Div H K Porter Co Inc Shelton	Colls—Electric Bittermann Electric Company Rowley Spring Co. Inc., The (Air-wound for television and electronic industries) Bristol	Copper Castings Knapp Foundry Company Ine Guilford
Centerless Grinding Brown Manufacturing Co. New Britain	television and electronic industries) Bristol Cells—Pipe or Tube	Copper Sand Castings Bridgeport Deoxidized Bronze Corp Bridgeport
New England Centerless Grinding, Inc. West Hartford Winsted Centerless Co Winsted	National Pipe Bending Co The Whitlock Manufacturing Co The Hartford	Copper Sheets
Centers Ready Tool Co The (anti friction, carbide	Cold Molded Electrical Insulation Meriden Molded Plastics Meriden	American Brass Company The New Haven Copper Co The Seymour
tipped, high speed) Stratford Centrifugal Pumps Hamco Inc (gasoline or electric driven)	Commercial Heat Treating A F Holden Company The West Haven	Copper Shingles New Haven Copper Co The Seymour
New Haven	Commercial Truck Bodies King Co Alfred B North Haven Metropolitan Body Company Bridgeport	Copperware Bridgeport Brass Company (cooking utensils) Bridgeport
Russell Mfg Co (for missiles, and for friction materials) Middletown Chain	Compacts Scovill Manufacturing Company (powder and	Copper Water Tube American Brass Company The Waterbury
Risdon Manufacturing Co John M Russel Div Naugatuck Turner and Seymour Mfg Co The (weldless,	rouge) Waterbury Comparators Pratt & Whitney Co Inc (Electro-limit and	Cord Russell Mfg Co The (marine & aero shock)
sash, jack, safety, furnace, universal, lion and cable) Torrington Chain-Beaded	Air-O-Limit) West Hartford	Middletown
Auto-Swage Products Inc Shelton Bead Chain Mfg Co The Bridgeport	Norwalk Company Inc (high pressure air and gas) South Norwalk	Cords—Asbestos Insulated General Electric Company Bridgeport
Chain—Power Transmission and Conveying Whitney Chain Company Hartford Chairs	Computers Reflectone Electronics, Inc. Royal McBee Corp Stamford Hartford	Cords—Braided General Electric Company Bridgeport
The Hitchcock Chair Company Riverton Chemical Manufacturing	Concrete Products Plasticrete Corp Hamden, Hartford,	General Electric Company Bridgeport
Carwin Company The North Haven	North Haven, Waterbury, Willimantic Condenser and Heat Exchanger Tubes	Cords—Portable General Electric Company Bridgeport
Apothecaries Hall Company Division The Hubbard Hall Chemical Company Waterbury	Bridgeport Brass Company Bridgeport Scovill Manufacturing Company Waterbury	Cord Sets—Electric General Electric Company Bridgeport
Axton-Cross Co Carwin Company The Dulite Chemical Corp The North Haven New Haven	Cones Sonoco Products Co (Climax-Lowell Div.) (Paper) Mystic	Seeger-Williams Inc Bridgeport Cork Cots
Macalaster Bicknell Company MacDermid Incorporated Naugatuck Chemical Division Waterbury United States	Connector Gorn Electric Co Inc (precision miniature elec-	Sonoco Products Co (Climax-Lowell Div) Mystic
Rubber Co New England Lime Company Pfixer & Co Inc Chas United States Chemical Corp (maintenance and	trical and printed circuit) Stamford Consulting Engineers	Corn Cob Meal Nielsen & Sons Inc. John R (graded) South Windser
powdered hand soap, floor waxes, cleaners, disinfectants, fuel additives) New Haven	McNeal J D (Electrical and Electronic) New Haven Stanley P. Rockwell Co Inc The (Consulting)	Correspondence Files Wassell Organization Inc Westport
Chemicals—Agriculture Naugatuck Chemical Division United States Rubber Co (insecticides, fungicides, weed killers)	Continuous Mill Gages Pratt & Whitney Co Inc West Hartford	Corrugated Box Manufacturers Connecticut Container Corporation New Haven
Chemists—Analytical and Consulting Bridgeport Testing Laboratory Inc Bridgeport	Contract Machining Laurel Mfg Co Inc (Precision Production Small Parts) Plainville	Corrugated Containers Inc Hartford Corrugated Shipping Cases
Christmas Light Clips Foursome Manufacturing Co Bristol	Malleable Iron Fittings Company Branford Contract Manufacturers	Connecticut Container Corporation New Haven Continental Can Co. Fibre Drum and Corrugated Box Division Portland D L & D Container Corp New Haven
Chromium Plating Chromium Corp of America Chromium Process Company The Shelton	Fenn Mfg Co The (Precision Machine Work) Newington Greist Mfg Co The (metal parts and assembles)	Cosmetic Containers
Cushman Chuck Co The Hartford	Hartford Machine Screw Co Div of Standard Screw Co	Eyelet Specialty Div. International Silver Co. Plume & Atwood Mfg Co The (metal)
Jacobs Manufacturing Co The West Hartford Jacobs Manufacturing Co The (drill chucks lathe collet chucks and arbors) West Hartford	Merriam Mfg Co (production runs—metal boxes and containers to specifications) Durham	Scovill Manufacturing Company Waterbury
Union Manufacturing Company New Britain Chucks—Drill Jacobs Manufacturing Co The West Hartford	Plume & Atwood Mfg Co The (metal parts and assemblies) Thomaston Scovill Manufacturing Company (metal parts	J B Williams Co The Glastonbury
Chucks & Face Plate Jaws Cushman Chuck Co The Hartford	and assemblies) J H Sessions & Son Torrington Co The Waterbury Bristol Torrington	Cotton and Asbestos Wicking Bland Burner Co The Hartford
Union Mfg Co New Britain Chucks—Power Operated	Controllers Bristol Company The Waterbury	Counting Devices Veeder-Root Inc Hartford
Cushman Chuck Co The Hartford Union Manufacturing Company New Britain	Manning Maxwell & Moore Inc Controls—Remote Panish Controls (Remote Controls for Marine	Couplings Scovill Manufacturing Company (hose and
Howard Company (Fire Howard "B" and High Temperature Dry) New Haven	& Aeronautic Applications) Bridgeport Controls—Hydraulic Remote	tube) Waterbury
Cleaning Compounds Enthone Inc (Industrial) MacDermid Incorporated New Haven Waterbury	Sperry Products Inc Danbury Converters DC to AC	Farrel-Birmingham Company Inc (Stone am Ore) Ansonic
Clock Mechanisms Lux Clock Mfg Co The Waterbury	Electric Specialty Co Safety Electrical Equipment Corp Conveyer Systems Stamford New Haven	Gilman Brothers Co The Gilman
Clocks E Ingraham Co The Bristol United States Time Corporation The Waterbury	Hayes-Te Equipment Corp Connecticut Conveyor Division (Conveyor Co The) Unionville	Cutters Atrax Company The (solid carbide) Newington
Clocks—Alarm Lux Clock Mfg Co The Waterbury	King Co Alfred B Leeds Conveyor Mfg Co The North Haven East Haven	Hanson-Whitney Co The (thread milling) Hartford Mitrametric Co The (ground pinion)
Clocks—Automatic Cooking Lux Clock Mfg Co The Waterbury	Production Equipment Co Meriden Copper	Pratt & Whitney Co Inc (Milling Cutters at types carbide and HSS) West Hartford
Clutches Snow-Nabstedt Gear Corp The New Haven	American Brass Corp The (sheet, wire, rods, tubes) Bristol Brass Corp The (steel) Bristol	Cutting & Creasing Rule Bartholomew Co H J Bristo
Clutch Facings Raybeston Division of Raybestos-Manhattan Inc (Molded, Woven, Semi-metallic and Full-	Chase Brass & Copper Co (sheet, rod, wire tube) Thinsheet Metals Co The (sheet and rolls)	Data Processing Equipment Royal McBee Corp Hartford
metallic) Russell Mfg Co (rubber Shock Cord—all sizes and types) Bridgeport Cord—all sizes Middletown	Waterbury Western Brass Mills Div Olin Mathleson Chemi- cal Corp New Haven	Decalcomanias Sirocco Screenprints New Have

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Electric Wiring Devices
Arrow-Hart & Hegeman Electric Co The Drafting Accessories Deep Drawings New Britain Terryville Stanley Pressed M Terryville Mfg Co Joseph Merritt & Co Hartford Hartford Drawn Shells Cly-Del Manufacturing Co. Electrical Appliances
Iona Manufacturing Company The
Manchester Waterbury Delayed Action Mechanism Hartford M H Rhodes Inc R W Cramer Company Inc The Drill Press Townsend Mfg Co The H P Elmwood Electrical Conduit Fittings & Grounding Specialties
Gillette-Vibber Company The New London Demineralizers Crystal Research Laboratories Drilling Machines Hartford Howe & Fant Inc (Turret Type) New London Pratt & Whitney Co Inc (Deep Hole)
West Hartford **Electrical Connectors** Design Designers for Business and Industry (product design-appearance) New Haven Burndy Corporation Drilling and Tapping Machinery Hartford Special Machinery Co The Hartford Electrical Control Apparatus Plainville Electrical Products Co The Design & Drafting Service Smith & Winchester Mfg Co The South Windham Drop Forgings Electrical Controls

Monarch Electric Co (Allis Chalmers)

New Britain Atwater Mfg Co Billings & Spencer Co The Consolidated Industries Wilcox Crittenden & Co Inc Plantsville Hartford West Cheshire Middletown Diamonds—Industrial
Parsons Diamond Products Inc West Hartford Electrical Recorders Druggists' Rubber Sundries
Seamless Rubber Company The New Haven Waterbury Dictating Machines Bristol Co The Dictaphone Corporation Gray Manufacturing Company The SoundScriber Corporation The Bridgeport Hartford Electrical Relays and Controls
Allied Control Co Duplicating Machines—Automatic & Whitney Co Inc West Hartford Plantsville New Haven Electrical Switchbeards
Plainville Electrical Products Co The
Plainville Die Cast Dies C & F Tool & Die Corp Dust Collectors Bridgeport Colonial Blower Co Ventilating Supplies Inc Plainville Die Castings
Newton-New Haven Co Inc New Haven
Stewart Die Casting Div Stewart-Warner Corp
Bridgeport Pneumatic Applications Co Simsbury Elastic
Russell Mfg Co (rubber shock cord—all size
Middletown Electrical Test Equipment McNeal J D New Haven Electric Cables

General Electric Company (for residential, commercial and industrial applications)

Bridgeport

Rockbestos Products Corp (asbestos insulated)

New Haven Electrical Wiring Systems
Wiremold Co The Hartford Die Casting Dies Electronic Parts
Patent Button Company The Waterbury
Prentice Mfg Co The G E (stampings to customers' specifications)

Kensington
Terryville Manufacturing Co (Stampings to ABA Tool & Die Co

Batern Machine Screw Corp The
Weimann Bros Mfg Co. The

Manchester
New Haven
Derby Die Heads-Self Opening
Corp The New Haven Eastern Machine Screw Corp The New Haven Geometric Tool Division, Greenfield Tap & Die Corp New Haven Electric Cord Springs Bristol Spring Manufacturing Co Electronics Beau Electronics Waterbury
Gray Manufacturing Company the Meritord
McNeal J D
Middletown Mfg Co (metal cabinets, chasais
panels, brackets, cases) Middletown
Ripley Co
Sturrup Larabee & Warmers Inc
Vinco Electronics Corporation New Haven Electric Cords
General Electric Company
Rockbestos Products Corp (asbestos Bridgeport s insulated) New Haven Die Polishing Machinery Hartford Special Machinery Co The Hartford Die Sets
Producto Machine Company The Bridgeport
Union Mfg Co (precision, steel and semi-steel)
New Britain Electric Eye Control Ripley Company Inc Middletown Electric Fixture Wire
Rockbestos Products Corp (asbestos insulated)
New Haven Pratt & Whitney Co Inc Giering Metal Finishing Inc Hamden
National Sherardizing & Machine Co Hartford
Waterbury Plating Company Waterbury West Hartford Electric Hand Irons
Winsted Hardware Mfg Co (trade mark "Durabilt")
Winsted Bogson & Pettis Mfg Co The Mitrametric Co The (ground for gears)

Torrington
Pratt & Whitney Co Inc (Monocone and Ducone Electroplating—Equipment & Supplies
Apothecaries Hall Company Division
Waterbury Electric Heating Elements
Hartford Element Co Hartford New Haven The Enthone Inc Hubbard Hall Chemical Company Dies) West Hartford
Pratt & Whitney Co Inc (thread cutting and
thread rolling) West Hartford Electric Ignition Harnesses
General Electric Company Bridgeport The Waterbury Waterbury Waterbury Lea Manufacturing Co The MacDermid Incorporated Electric Insulation Dies & Die Cutting
Douglas Co Geo M
New Haven Case Brothers Inc Stevens Paper Mills Inc The Manchester Windsor Electroplating Processes & Supplies one Inc New Haven Enthone Inc Electric Lighting Fixtures
Fan-Craft Mfg Co (residential, church, post Display Containers
National Folding Box Co Div Federal Paper
Board Co Inc (folding paperboard)
New Haven and Versailles Electrotypes
Barnum-Hayward Electrotype Co Inc
New Haven
Hartford
Hartford lanterns)
Plume & Atwood Mfg Co The
Wasley Products Inc Lockwood Sons Inc Wm H

Lockwood Sons Inc Wm H

Hartford

New Haven Electrotype Div Electrographic

New Haven Thomaston Plainville Displays—Design & Production Ad-Craft Displays, Inc.
Bl Conn-Craft Co. (Plastic)
Witiel & Kufta
New Bloomfield Waterbury New Britain Electric Motor Controls Arrow-Hart & Hegeman Electric Co The Elevators
Eastern Elevator Co (passenger and freight) Hartford New Haven Hartford General Elevator Service Co Polecats Inc Display Equipment Old Saybrook Monarch Electric Co (3 phase industrial Enameling Durham Mfg Co The (Designing & Mfg to customers' specifications)

Specifications)

Durham Mfg Co (Contract Work to Individual Durham Parsons Co Inc W A (custom designed)

Durham Durham New Britain Giering Metal Finishing Inc Waterbury Plating Company Waterbury Electric Motor Repair B & J Electric Co Enamels & Lacquers
Dobbs Chemical Co The (industrial finishes to Electric Motors
Electric Specialty Co Stamford
Iona Manufacturing Company The
Manchester customers' specifications) New Haven customers specialization of the Country of the Coun Electric Special Iona Manufacturing Companies (Allis Chalmers)

New Britain

New Haven

Milford Displays-Plastic Dura Plastics of New York, Inc. End Mills Atrax Company The (solid carbide) Newington Westport Engraving—Plastic and Nonferrous Metals
Conn-Craft Co. Waterbury
New England Engraving Company
Dura Plastics of New York, Inc.
Salisbury Products Inc

Westport
Lakeville Electric Switches
Arrow-Hart & Hegeman Electric Co The
Hartford Door Closers Sargent & Company Yale & Towne Mfg Co The New Haven Bilco Co The (metal, residential and commercial) West Haven Electric Time Controls
Cramer Controls Corporation The Centerbrook Envelopes Curtis 1000 Ine United States Envelope Company Hartford Division Hartford Electric Underfloor Duct System General Electric Company Bridgeport Hartford Dowel Pins Excelsior Nielsen & Sons Inc John R Allen Manufacturing Co The
Hartford Machine Screw Co
Screw Co
Heloi-Krome Screw Corp The
Torrington Co The
Hartford
Hartford
Hartford
Torrington General Electric Wire

General Electric Company

Bridgeport
Rockbestos Products Corp (asbestos insulated)
New Haven

South Windsor

Extractors—Tap
West Hartford

Walton Company

Extruders and Accessories

Davis Electric Company (Ram Type Teñon
Wallingford
Wallingford Extruder) Walling Standard Machinery and Davis-Standard visions of Franklin Research Corp M Eyelets
American Brass Co The
Cly-Del Manufacturing
Mark Eyelet & Stamping Co
stampings)
Platt Bros & Co The
Plume & Atwood Mfg Co The
Scovill Manufacturing Company
Stevens Co Inc.
Waterbury
Waterbury
Waterbury
Waterbury
Waterbury
Waterbury
Waterbury
Waterbury Stevens Co Inc Waterbury Companies Inc Waterbury Eyelets, Ferrules and Wiring Terminals American Brass Company The Waterbury Companies Inc Waterbu Waterbury Waterbury Eyelet Machine Products
American Brass Company The
Ball & Socket Mfg Co the
Cold Forming Mfg Co The
Platt Bros & Co The
Plume & Atwood Mfg Co The
Stevens Co Inc
Waterbury Companies Inc Waterbury West Cheshire
Waterbury
Waterbury
Thomaston Waterbury Waterbury Fabricators
Alfred B Co North Haven covill Manufacturing Company brass, bronze, copper, steel) Scovill (aluminum, Waterbury Fabrica ussell Mfg Co (Teflon, Moulded Fabric, Bearing Surfaces, High Temperature Fab-Middletown Fan Blades Torrington Manufacturing Company The Torrington Fancy Dress Buttons and Buckles Waterbury Companies Inc Wat Waterbury Fans—Electric
General Electric Company
Monarch Electric Co (attie, industrial and ventilating)
New Britain Fans-Industrial Ventilating Supplies Inc Plainville Fasteners—Aircraft
Scovill Manufacturing Company
Aircraft Fasteners) (PANELOC Waterbury Fasteners—Industrial
Torrington Co The Fasteners—Laundry Proof Scoville Manufacturing Company (GRIPPER snap fasteners) Waterbury Scovill Manufacturing Company (GRIPPER zippers and GRIPPER snap fasteners)

Waterbury Auburn Manufacturing Company The (me-chanical, cut parts) Middletown Drycor Felt Company (paper makers and in-dustrial) Staffordyille Felt—All Purpose
American Felt Co (Mill & Cutting Plant) Chas W House & Sons Inc (Mills & Cutting Plant) Fiber-glass Fabrication West Haven Fibre Board Bird & Son Inc
Case Brothers Inc
Colonial Board Company
C H Norton Co The
Stevens Paper Mills Inc The

New Britain
Manchester
Manchester
Westchester
Westchester New Britain File Cards
Standard Card Clothing Co The
Stafford Springs

Filing Equipment
Wassell Organization Inc Westport Filters—Fluid Cuno Engineering Corp The Meriden Finger Nail Clippers Ansonia Firearms
Coit's Patent Fire Arms Mfg Co Inc Hartford
Junior Screw Machine Products Inc
West Haven Marlin Firearms Co The in Firearms Co ine Mossberg & Sons Inc New Haven Chester-Western Div Olin Mathleson Chem-New Haven Fire Alarm Systems Fire-Lite Alarms Inc New Haven Fire Hose
Fabrics Fire Hose (municipal and industrial) John P Smith Co The (screens) New Haven

Fireworks M Backes' Sons In Wallingford Fishing Tackle H C Cook The Ansonia Flashlights Bridgeport Metal Goods Mfg Co Bridgeport Flat Springs
Bristol Spring Manufacturing Co
Gemeo Manufacturing Co Inc Plainville Southington Flexible Shaft Machines
Pratt & Whitney Co Inc West Hartford Float Switches
Gorn Electric Co Inc (for aircraft and com merical use) Stamford Floor & Ceiling Plates
Beaton & Cadwell Mfg Co The New Britain Beaton & Cadwell Mig Co and Fluorescent Lighting Equipment Fullerton Manufacturing Corp Norwalk Vanderman Manufacturing Co The Williamantic Hartford Wiremold Company The Foam Rubber Armstrong Rubber Company The West Haven Atwater Manufacturing Company
Bridgeport Hardware Mfg Corp The
Capewell Manufacturing Company
Chase Brass & Copper Co
Clark Brothers Bolt Co
Consolidated Industries Inc
Heppenstall Co (all kinds and shapes)
Bridgeport
West Cheshire
Hepperstall Co (all kinds and shapes)
Bridgeport
Non-ferrous) Scovill Manufacturing Company (Non-ferrous)
Waterbury Foundries
Connecticut Malleable Castings Co (malleable iron castings)

Berby Castings Company, The
Ductile Iron Foundry Inc

Farrel-Birmingham Company Inc (Iron and Steel)

Ansonia
Hartford Electric Steel Corp
Hartford Electric Steel Corp
Malleable Iron
Alleable Iron
And Steel Castings)
Plainville Casting Company
high tensile irons)
Producto Machine Company
The
Smith & Winchester Mfg Co
South Windham
South John P Smith Co The Four Slide Forms
Peck Spring Co

Turner & Seymour Mig Co The (gray, iron, semi steel and alloy)
Union Mig Co (gray iron & semi steel) Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) Middletown Fountain Pens and Mechanical Pencils Waterman Pen Company Inc Seymour New Haven Plainville Thompson & Son Co The Henry G

Fuel Oil Pump and Heater Sets ly Engineering Corporation Str Stamford

Furnaces
Norwalk Airconditioning Corp South Norwalk Gage Blocks
Pratt & Whitney Co Inc (Alloy steel and Carbide, Hoke and USA) West Hartford

Galvanizing Malleable Iron Fittings Co Wilcox Crittenden & Co Inc Gaskets

Auburn Manufacturing Company The (from all materials) Middletown Raybestos Division of Raybestos-Manhata Inc Bridgeport Gaskets—Insulation
American Felt Co

Glenville Gas Range Conversion Burner Holyoke Heater Corp of Conn Inc Hartford Gas Scrubbers, Coolers and Absorbers Peabody Engineering Corporation Stamford

Gauges Bristol Co The (pressure and vacuum-recording automatic control) Waterbury Helicoid Gage Division American Chain & Cable Co The (pressure and vacuum)

Manning Maxwell & Moore Inc Stratford New Haven Trap Rock Co The Machine Products Div (Johan Universal and Special Purpose Gauge)
Pratt & Whitney Co Inc (Precision Measurement all types)

Gears
Mitrametric Co The (blanked fine pitch)
Torrington

Gears and Gear Cutting Farrel-Birmingham Company Inc Fenn Mg Co The Newington Hartford Special Machinery Co The United Gear & Machine Co Suffield

Benne Comm Hartf

New The

Stanle

Cor Bauer Roloc

Stanle

Mitch

G &

Hartf

Naug

Smith

Bristo

Hartf Sta Holo-

Malle

ABA Pratt ing

Hans

Hawi

Roch

Mirre

acid

Generators
Hamco Inc (electric, portable, gasoline driven)
New Haven Safety Electrical Equipment Corp New Haven

Glass Bowing Macalaster Bicknell Company New Haven Glass Containers Feldman Glass Co. The New Haven

Glass Cutters Fletcher-Terry Co The Forestville

A D Steinbach & Sons Inc New Haven

Grinding Grinding
Farrel-Birmingham Company Ine (Roll and
Cylindrical)
Hartford Special Machinery Co The (gears,
threads, cams and splines)
Horberg Grinding Industries Ine (Precision eustom grinding: centerless, cylindrical, surfaces, internal and special)
Fré & D Mfg Company The (Contour and Precision)

Grinding

Antonia and Special

Grinding

(Precision eustom

Grinding

Grinding

(Precision eustom

Grinding

Grind

Grinding Heads—Internal
Pratt & Whitney Co Inc (Pneumatic, High
Speed) West Hartford

Grinding Machines
Farrel-Birmingham Company Inc (Roll) Pratt & Whitney Co Inc (Surface, Die, Gear and Cutter Grinders) West Hartford Rowbottom Machine Company Inc (cam) Waterbury

Grinding Wheels Fuller Merriam Company The West Haven Grommets Waterbury

American Brass Company The Plume & Atwood Mfg Co The Hack and Band Saw Blades Capewell Manufacturing Co The Hartford

Hair Hygiene Preparations Parker Herbex Corporation Stamford

Hammers—Carpenters and Machinists Capewell Manufacturing Company Hart

Hand Tools Spencer Company Billings and Spencer Company (wrenches sockets and shop tools)
Bridgeport Hardware Mfg Corp The (screw drivers, wrenches, nail pullers, box & crate openers, pliers, saws, trowels & special formal state of the saws of the saws

Hardened and Ground Parts Hartford Machine Screw Company Div of Standard Screw Co Hartford

Hardness Testers
Wilson Mechanical Instrument Div American
Chain & Cable Company Inc Bridgeport

Hardware
Bassick Company The (Automotive) City Lumber Co of Bridgeport In Bridgeport Gordon Associates Harlock Products Corp Sargent & Company Wilcox Crittenden & Co Inc and industrial) Yale & Towne Mfg Co The Stamford

Hardware-Marine & Bus Rostand Mfg Co The Milford Hardware—Trailer Cabinet Excelsior Hardware Co The Stamford

Excelsior Hardware, Trunk & Luggage
Corbin Cabinet Lock Div American Hardware
New Britain
Bristol Corp J H Sessions & Son Yale & Towne Mfg Co The

Hat Machinery Doran Bros Inc Danbury Health Surgical & Orthopedic Supports
Berger Brothers Company The (custom made
for back, breast and abdomen) New Haven

Heat Elements
Electro-Flex Heat Inc
Safeway Heat Elements Inc (woven wire resistance type)
Middletown

Heat Exchangers
Whitlock Manufacturing Co The
Dunham-Bush, Inc.
West Hartford

Heat Sealing—Electronic Berger Bros (vinyl-polyethylene) New Haven

I 3 M A D	E IN CON	NECTICOI
Heat Treating Bennett Metal Treating Co The Commercial Metal Treating Co Hartford Machine Serew Company Hartford	Industrial Displays Sansone Co S Frederick (Designers Builders and Counselors) Short Beach	Lamps Plume & Atwood Mfg Co The (metal oil) Waterbury
New Britain-Gridley Machine Division The New Britain Machine Co New Britain New Haven Heat Treating Co Inc New Haven	Industrial Finishes Chemical Coatings Corporation Rocky Hill	Lampholders—Incandescent and Fluorescent General Electric Company Bridgeport
Skene Co Inc The William A (metals) Bridgeport Stanley P Rockwell Co Inc The Hartford	Waterman Pen Company Inc Seymour	Verplex Company The Essex
(Advt.) Heat-Treating Equipment	Insecticides American Cyanamid Company Waterbury	Lanterns—Battery Operated Electrical Div Olin Mathieson Chemical Corp New Haven
Sarnes Co The Wallace Div Associated Spring Corp Bristol Bauer & Company Inc Hartford	Instalment Payment Books	Lathes-Toolroom and Automatic Pratt & Whitney Co Inc West Hartfor-
Rolock Inc (Retorts, Muffles, etc) Fairfield Stanley P Rockwell Co Inc The (commercial) Hartford	Wassell Organization Inc Westport Insulated Wire & Cable	Lead Plating
Heat Treating Fixtures	General Electric Company (for residential com- mercial and industrial applications)	Christie Plating Co The Groton Leather
Rolock Inc (Trays, Baskets, etc.) Fairfield Bridgeport	Kerite Company The Bridgeport Seymour	Herman Roser & Sons Inc (Genuine Pigskin) Glastonbury
Heat Treating Salts and Compounds Mitchell-Bradford Chemical Co Milford	Insulated Wire & Cable Machinery Davis Electric Company Wallingford	Leather Dog Furnishings Andrew B Hendryx Co The New Haven The Smith-Worthington Saddlery Co Hartford
Heaters—Electric General Electric Company Bridgeport Heating	Instruments Bristol Company The Manning Maxwell & Moore Inc Penn Keystone Corporation Derby	Leather, Mechanical Auburn Manufacturing Company The (packings, cubs, washers, etc) Middletown
Dunham-Bush, Inc. West Hartford	Pratt & Whitney Co Inc (Precision Measuring) West Hartford Terryville Mfg Co The (stampings for)	Letterheads Lehman Brothers Inc (designers, engravers, lithographers) New Haven
Heating and Cooling Coils G & O Manufacturing Co New Haven	Terryville Integrators	Lighting Accessories-Fluorescent
Heating Elements Hartford Element Co Hartford	Reflectone Electronics, Inc. Stamford	General Electric Company Bridgeport Lighting Equipment Fullerton Manufacturing Corp Norwalk
Heavy Chemicals Naugatuck Chemical Division United States	Intercommunication Action Systems Co Meriden	Fullerton Manufacturing Corp Norwalk Miller Co The (Miller, Ivanhoe) Meriden Lime
Rubber Co (sulphuric, nitric and muriatic acids and aniline oil) Naugatuck	Interval Timers Lux Clock Manufacturing Company Waterbury Rhodes Inc M H Hartford	New England Lime Company Canaan Lipstick Cases
Heavy Machinery Smith & Winchester Mfg Co The South Windham	Jacquard	Scovill Manufacturing Company Waterbury
Hex-Socket Screws	Case Brothers Inc Manchester Japanning	Lipstick Containers Bridgeport Metal Goods Mfg Co Bridgeport Plume & Atwood Manufacturing Co
Bristol Company The Waterbury Hartford Machine Screw Co Div of Standard Screw Co Hartford	H Sessions & Son Bristol	Waterbury Lithographers
Holo-Krome Screw Corp The West Hartford	Linley Brothers Company Moore Special Tool Co (Moore) Bridgeport Bridgeport	O'Toole & Sons Inc T Stamford Lithographing
High Frequency Alternators Electric Specialty Co Stamford Safety Electrical Equipment Corp New Haven	Pratt & Whitney Co Inc West Hartford Jigs, Fixtures & Gages Federal Machine & Tool Co Bristol	City Printing Co. The Kellogg & Bulkeley A Division of Connecticut Printers Inc Lehman Brothers Inc A, D. Steinbach & Sons New Haven
Highway Guard Rail Hardware Malleable Iron Fittings Co Branford Hinges	Jig Grinder Moore Special Tool Co (Moore) Bridgeport Pratt & Whitney Co Inc West Hartford	Locks—Banks Yale & Towne Mfg Co The Stamford
Homer D Bronson Company Beacon Falls Hobs and Hobbings	Junior Automobiles	Sargent & Company Yale & Towne Mfg Co The Stamford
ABA Tool & Die Co Manchester Pratt & Whitney Co Inc (Die and Thread mili- ing) West Hartford	Power Car Company Mystic Keller Machines Pratt & Whitney Co Inc West Hartford	Locks—Cabinet Excelsior Hardware Co The Yale & Towne Mfg Co The Stamford
Hobs Hanson-Whitney Co The (fine pitch gear)	Key Blanks Sargent & Company New Haven	Locks—Special Purpose Yale & Towne Mfg Co The Stamford
Hoists and Trolleys Union Mfg Company New Britain	Yale & Towne Mfg Co The Stamford	Locks—Suitcase and Trimmings Excelsior Hardware Co The Stamford
Honing K-F & D Mfg Company The Manchester	Labels Naugatuck Chemical Division United States Rubber Co (for rubber articles) Naugatuck	Locks—Trunk Excelsior Hardware Co The Stamford Yale & Towne Mfg Co The Stamford
Hose Fittings Scovill Manufacturing Company Waterbury	Label Dispensers Derby Sealers Inc (pressure-sensitive labels) Derby	Locks—Zipper Excelsior Hardware Co The Stamford
American Brass Co	Label Moisteners Better Packages Inc ("Counterboy"—"Packer")	Loom—Non-Metallic Wiremold Company The Hartford
American Metal Hose Branch Waterbury	Derby Sealers Inc Shelton Derby	Lubricants—Extreme Temperatures Alpha Molykote Corp Stamford
Hawie Mfg Co The (So-Lo Grip Tabs) Bridgeport	Laboratory Equipment Eastern Industries Inc New Haven	Lubricants—High Pressure Alpha Molykote Corp Stamfor
Hospital & Rehabilitation Equipment Polecats Inc Old Saybrook	Macalaster Bicknell Company New Haven	Lubricating System—Mist Thompson & Son Co The Henry G New Have Lumber & Millwork Products
Hydraulic Brake Fluids Eis Manufacturing Co Middletown	Laces American Fabrics Company The Wilcox Lace Corporation The Middletown	City Lumber Co of Bridgeport Inc Bridgepor
Hypodermic Needles Roehr Products Company Waterbury	Lacquers & Synthetic Enamels Chemical Contings Corporation Rocky Hill	Collins Company The Collinsvill Machine Design Black Rock Mfg Co The Bridgepor
Impregnating	I-Sis Chemicals Inc Stamford	Machine Overload Menitors Sperry Products Inc Danbur
American Metaseal Inc (metal, wood etc.) Hamden	Flint Co A W New Haven	Machine Shep Pabrication Smith & Winchester Mfg Co The
Industrial Chrome Plating Mirror Polishing & Buffing Co Waterbury	Bridgeport Brass Company Bridgeport	South Windham (Advt.

Machine Toble Farrel-Birmingham Company Inc Ansonia
Pratt & Whitney Co Inc West Hartford
Producto Machine Company The Bridgeport

Machine Work
Banthin Engineering Co
Black Rock Mfg Co The
Farrel-Birmingham Company Inc
Fenn Manufacturing Company The (Precision
Newington
Newington Machine Work parts)
Fuller Brush Company The (precision contract
Hartford work)
Hartford Special Machinery Co The (contract
Hartford work only)
National Sheradizing & Machine Co. (job)
Hartford
Hartford

New Haven Trap Rock Co The Machine Prod-ucts Div North Branford ucts Div Parker-Hartford Corporation Hartford Swan Tool & Machine Co The Safety Electrical Equipment Corp Portrington Manufacturing Co The ing mill machinery)

Torrington Co The Torrington Torringto

Conn Machine Repair Inc
(special mfg)
Davis Electric Company (Wire and Cable)
Wallingford
Wallingford Machinery Fenn Manufacturing Company The (special)
Newington

Fenn Manufacturing Newington
Hallden Machine Company The (mill)
Thomaston
Torrington Manufacturing Co The (mill)
Torrington
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc (metal working)
Waterbury

Banthin Engineering Company (new and re-Bridgeport

Machinery—Bolt and Nut
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc Waterbury

Machinery—Cold Heading
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc Waterbury

Machinery Dealers & Rebuilders
Botwinik Brothers
Bristol Metal Working Equipment
East Hartford

Conn Machine Repair Inc J L Lucas and Son State Machinery Co Inc Bridgeport Fairfield New Haven

State Machinery Council Machinery—Extruding
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

Machinery—Metal-Working
Fenn Mfg Co The
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury
Pratt & Whitney Co Inc
West Hartford Waterbury West Hartford

Pratt & Whitney Co Inc

Machinery—Nut

Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc (forming and tap-

Machinery—Screw and Rivet
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc Waterbury

Machinery—Wire Drawing
Fenn Mig Co The
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury

Machinery Rebuilding Conn Machine Repair Inc Bridgeport

Machinery—Wire Straightening Mettler Machine Tool Inc New Haven Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Machinery—Wire Straightening and Cutting Mettler Machine Tool Inc New Have

Machines

Campbell Machine Div American Chain & Cable
Co Inc (cutting & nibbling) Bridgeport
Coulter & McKensie Machine Co The (special, new development engineering design and construction)

Company The Waterbury

Machines Automatic Globe Tapping Machine Co

Globe Tapping Machine Co

Machines—Automatic Chucking

New Britain-Gridley Machine Division

The New Britain Machine Co (multiple spindle and double end)

New Britain

Pratt & Whitney Co Inc (Potter & Johnson)

West Hartford

Machines—Brushing
Fuller Brush Co The

Machines-Draw Benches Fenn Manufacturing Company The Newington Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury Machines—Forming
Nilson Machine Company The A H (four-slide
wire and ribbon stock)
Shelton

Machines Paper Ruling John McAdams & Sons Inc Norwalk

Machines—Precision Boring
New Britain-Gridley Machine Division
The New Britain Machine Co. New Britain

Machines-Rolling
Fenn Manufacturing Company The Newington

Machines Slotting
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc (screw head) head) Waterbury

Machines—Special Fenn Mfg Co The Fuller Brush Co The Newington Hartford

Machines—Swaging
Fenn Manufacturing Company The Newington
Torrington Co The
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury

Machines—Thread Rolling
Hartford Special Machinery Co The Hartford
Peterson Division Mettler Machine Tool Inc
New Haven
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc

Machines—Turks Head
Fenn Manufacturing Company The
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury

Machines—Wire Drawing
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury

Machining-Horizontal Boring
Tucker Machine Co New Haven

Manganese Bronze Ingot
Whipple and Choate Company Bridgeport

Manicure Instruments W E Bassett Company The Derby

Marine Equipment
Wilcox-Crittenden Div North & Judd Mfg Co
Middletown

Marine Reserve Gears Snow-Nabstedt Gear Corp The New Haven

Marking Devices
Cooney Engraving Co
Hoggson & Pettis Mfg Co The

Parker-Hartford Corporation (steel) Hartford Marking Tools
Parker-Hartford Corporation Hartford

Masonry Products ducts Hamden, Hartford, arhury, Willimantic Plasticrete Corp Hamder North Haven, Waterbury,

Materials Handling
Hayes-Te Equipment Corp Connecticut Conveyor Division (Conn-Veyor) Unionville
Parsons Co Inc W A (tote pans) Durham

Mats-Newspaper Lockwood Sons Inc Wm H Hartford

Mattresses Waterbury Mattress Co Waterbury

Durham Mfg Co Parsons Co Inc W A (tool kits) Durham Durham

Metal Boxes and Displays

Durham Mfg Co The (Designing & Mfg to customers' specifications)

Durham Mfg Co (Bond, Security, Cash, Utility, Personal Files, Drawer Safes, Custombilt containers and displays)

Middletown Mfg Co

Middletown

Metal Cleaners
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company
Waterbury

Enthone Inc MacDermid Incorporated New Haven Waterbury

Metal Finishes Enthone Inc Mitchell-Bradford Chemical Co New Haven Milford

Metal Finishing Hartford Industrial Finishing Co National Sheradizing & Machine Co Waterbury Plating Company Hartford

Metal Formings West Cheshire Master Engineering Co Stanley Pressed Metal mpany New Britain

Victor (16m splic

Cine-V

Safety

Crame

Beau 1

Butter

Patent

Scott Water

and ARA '

Conn-6

Wilcox

Lockw

Apoth The H

Ameri Bridge Plume

Water rolls Wester ical

Whipp

Hartfe

Miller

Clark Hartfe

City I

Miller

Stea

Whitle

Plume

Hamden

Metallurgists
Bridgeport Testing Laboratory Inc Bridgeport Leed Co The H A Mouldings

Metal Novelties H C Cook Co The

Metal Products—Stampings

American Brass Company The
Plume & Atwood Manufacturing
Prentice Mfg Co The G E
J H Sessions & Son
Scovill Manufacturing Company
der)

Metal Products—Stampings
Waterbury
Waw Britain
New Britain Stanley Pressed Metal

Metal Specialties Excelsior Hardware Co The Torrington Co The Stamford

Metal Spinning Moseley Metal Crafts Inc West Hartford

Metal Stampings
American Brass Company The
Better Formed Metals Inc
Cly-Del Manufacturing Co.
Doo'Val Tool & Mfg Inc The
Excelsior Hardware Co The
Greist Mfg Co The
H C Cook Co The
Stanley Humason Inc
Mohawk Mfg Co (threaded)
North & Judd Manufacturing Co
New Britain
J A Otterbein Company The (metal fabrications)

Stanley Humason Inc
Mohawk Mfg Co (threaded)
Morth & Judd Manufacturing Co
New Britain
Forestville
Middletown
Middletown
Middletown
Middletown
Middletown
Middletown Metal Stampings North & Judd Manufacturing Co Net A Otterbein Company The (metations)
JH Sessions & Son
Patent Button Co The
Plume & Atwood Mfg Co The
Saling Manufacturing Company
Swan Tool & Machine Co The
Terryville Manufacturing Co
Waterbury Companies, Inc.
Waterbury Companies, Inc.
Waterbury Lock & Specialty Co The Reintal Waterbury Thomaston Unionville Hartford Terryville Waterbury e Milford

Sprague Meter Company Bridgeport

Rhodes Inc M H Hartford

Microfilming
American Microfilming Service Co. New Haven Milford Cine-Video Productions Inc.

John P Smith Co The New Haven

Mill Machinery
Torrington Manufacturing Company The
Torrington

Machine Co The Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Pratt & Whitney Co Inc (Keller Tracer— Controlled Milling Machines) West Hartford Rowbottom Machine Company Inc (cam)

Mill Products
Scovill Manufacturing Company (aluminum, brass, bronze, nickel silver—sheet, rod, wire, Waterbury

Mill Supplies
Wilcox-Crittenden Div North & Judd Mfg Co
Middletown

Millwork Hartford Builders Finish C Hartford

Miniature Precision Connectors Stamford Gorn Electric Co

Minute Minders Lux Clock Mfg Co The Waterbury

Mirror Rosettes and Hangers Waterbury Companies Inc Waterbury

Mixing Equipment
Easter Industries Inc New Haven

Model Work

B & N Tool & Engineering Co (instruments and timing devices)

Conn-Craft Co. (Architectural and Industrial)

Waterbury

Mona Hartford Fuller Brush Co The

IT'S C 0 N ECTIC U M A D E 1 N N

Motion Picture Equipment
Victor Animatograph Corp a div of Kalart
(16mm sound and silent projectors film
splicers and rewinders) Plainville

Motion Pictures Milford Cine-Video Productions Inc

Motor—Generator Sets
c Specialty Co
Electrical Equipment Corp
New Haven Stamford

Motors—Electric Timing Cramer Controls Corporation The Centerbrook

Motors—Hystersis Synchronous Beau Electronics Waterbury

Motors—Synchronous
Cramer Controls Corporation The
Electric Specialty Co
Stamford Stamford

Moulded Plastic Products
Butterfield Inc T F
Patent Button Co The
Scott & Sons Mfg Co Geo S
Waterbury Companies Inc
Watertown Mfg Co The Naugatuck Waterbury Wallingford Waterbury Watertown

Mouldings
Himmel Brothers Co The (architectural, metal and store front)
Hamden

Moulds ABA Tool & Die Co
Hoggston & Pettis Mfg Co The (steel)
New Haven

Name Plates
Conn-Craft Co. (Metal and Plastic) Waterbury
Cooney Engraving Co
Seton Name Plate Co (metal & plastic name
plates and identification tags) New Haven

Napper Clothing

Napper Clothing

Standard Card Clothing Co The (for textile Stafford Springs

Wilcox Lace Corp The Middletown Newspaper Mats Lockwood Sons Inc Wm H

Hartford

Nickel Anodes

Apothecaries Hall Company Division
The Hubbard Hall Chemical Company
Seymour Manufacturing Co. The
Waterbury

Nickel Silver
American Brass Company The
Bridgeport Brass Company
Plume & Atwood Mfg Co The
Waterbury Rolling Mills Inc
Waterbury Rolling Mills Inc
Waterbury Western Brass Mills Div Olin Mathieson Chem-ical Corp (sheet, strip) New Haven

Nickel Silver Ingot Whipple and Choate Company The Bridgeport

Night Latches Sargent & Company Yale & Towne Mfg Co Inc New Haven Stamford

Nitriding
Hartford Machine Screw Company Hartford

Non-ferrous Metal Castings Miller Company The Maridan

Nuts, Bolts and Washers Clark Brothers Bolt Co Hartford Machine Screw Co Div of Standard Screw Co Torrington Co The Milldale Hartford

Office Equipment Pitney-Bowes Inc
Underwood Corporation Bridgeport & Hartford
Wassell Organization Inc

Westport

Office Printing
Kellogg & Bulkeley A Division of Connecticut
Printers Inc Hartford

Offset Printing Co. The New Haven

Miller Company The (domestic) Meriden
Peabody Engineering Corp (Mechanical and/or
Steam Atomizer) Stemford Hartford
Blent Gow Oil Burner Corp The

Silent Gow On Danks
Oil Tanks
Norwalk Tank Co The (550 to 30M gals, underwriters above and under ground)
Writers above and under ground)
Norwalk
Hartford

Oils—Cutting
Anderson Oil and Chemical Company, Inc.
Portland

Optical Cores & Ingots
Plume & Atwood Mfg Co The Thomaston

Otis Woven Awning Stripes Norwich The Falls Company

Ovens-Electric Bauer & Company Inc Hartford

Bauer & Company and
Packaging-Engineering
Commerce Packaging Corp Stamford
National Export Corp. (Military and Commercial—equipped for domestic and export packaging, canning, crating and shipping)
New Haven

Packaging & Packing Commerce Packaging Corp Mercer & Stewart Co The Stamford

Auburn Manufacturing Company The (leather, rubber, asbestos, fibre) Middletown Raybestos Division of Raybestos-Manhattan Inc (Asbestos and Rubber Sheet) Bridgeport

Padlocks Sargent & Company N Waterbury Lock & Specialty Co The Yale & Towne Mfg Co Inc New Haven Milford Stamford

Pads-Office
The Baker Goodyear Company Branford

Paints
Tredennick Paint Manufacturing Co The
Meriden

Leed Co The H A Hamden

Panta

Moore Special Tool Co (crush wheel dresser)

Bridgeport

Pantographic Reproduction & Fabrication Conn-Craft Co. (Metals, Plastics and Wood) Waterbury

Paperboard
Continental Can Co., Boxboard and
Folding Carton Division
Federal Paper Board Co Inc
New Haven
New Haven Board & Carton Co The
Montville, New Haven & Versailles
Robertson Paper Box Co
Montville

Robertson Faper Box 8

Atlantic Carton Corp (folding)
National Folding Box Co Div Federal Paper
Board Co Inc (folding)
New Haven & Versailles
Bristol

Mills Inc H J Rew Haven & versalites
New Haven Board & Carton Co
The
New Haven
Roberston Paper Box Co (folding) Montville

Paper Boxes—Folding and Setup
Bridgeport Paper Box Company Bridgeport
M Backers' Sons Ine Wallingford

H C Cook Co The (steel) Ansonia Paper Mill Machinery Farrel-Birmingham Company Inc Ansonia

Paper—Shredded Nielsen & Sons Inc John R South Windson

Paper Tubes and Cores Sonoco Products Co (Climax-Lowell) Div

Parallel Tubes
Sonoco Products Co (Climax-Lowell) Div
Mystic

Rhodes Inc M H Hartford

Hartford Machine Screw Co Div of Standard Screw Co Standard Screw Co Scovill Manufacturing Company (ammunition, electric instrument, electrical appliance, fountain pen, instrument, lighting fixture, ordance, etc.—blanked, stamped, formed, drawn, re-drawn, forged, screw machined, headed, pointed, finished) Waterbury Torrington Co The

Pattern-Makers Farrel-Birmingham Company Inc

Pattern Shop Smith & Winchester Mfg Co South Windham

Penlights
Bridgeport Metal Goods Mfg Co Bridgeport

Pet Furnishings Andrew B Hendrix Co The New Haven

Phosphor Bronze
American Brass Company The Bridgeport Brass Company Bridge
Miller Company The (sheets, strips, rolls) Waterbury Bridgeport Waterbury Rolling Mills Inc (sheets, strips rolls) Waterbury Waterbury Rossian Waterbury rolls)
Western Brass Mills Div Olin Mathieson Chemical Corp (sheets, strip)
New Haven Phosphor Bronze Ingots Whipple and Choate Company The Bridgeport

Photo Engraving
Dowd Wyllie & Olson Inc
Wilcox Photo Engraving Co Inc Ne Hartford Photocopy Equipment and Supplies
Ludwig Inc F G Old Saybrook

Photographic Equipment
Electrical Div Olin Mathieson Chemical Corp Kalart Company Inc

Kalart Company inc

Piano Repairs

Pratt Read & Co Inc (keys and action)

Ivoryton

Piano Supplies
Pratt Read & Co (keys and actions, backs,
Ivoryton

Pillow Blocks
New Departure Div of General Motors (ball)

CEM Company ("Spirol")
Hartford Machine Screw Co
Standard Serew Co
Torrington Co The (Dowel & Taper)

Hartford
Torrington Torrington

Pipe
American Brass Co The (brass and copper)
Waterbury Chase Brass & Copper Co (red brass and Waterbury copper)
Howard Co (cement well and chimney)
New Haven

Pipe Fittings Malleable Iron Fittings Co Branford

Malleable Iron Fittings Co
Pipe Plugs
Hartford Machine Screw Co
Standard Screw Co
Hartford
Holo-Krome Screw Corporation
Sunk)
Hartford
West Hartford

Pipe Plugs—Socketed
Hartford Machine Screw Co Div of
Standard Screw Co
Holo-Krome Screw Corp The
West Hartford

Pistols & Revolvers
Colt's Patent Fire Arms Mfg Co Inc Hartford

Plastic Bottles

Plax Corporation

Plastic Buttons

Frank Parizek Manufacturing Co The

West Willington

Waterbury

Plastic Engraving
Conn-Craft Co.
New England Engraving Co Div of Plastics of New York Inc
Saliabury Products Inc

Waterbury
Waterbury
Westport
Lakeville

Plastic Extruders

Danielson Mfg Co The (nylon and other engineering plastics)

Jessall Plastics Div of The Electric Storage
Battery Co

Kensington

Plastic Fabrication Conn-Craft Co. Dura Plastics of New York, Inc. Fabricon Corp Salisbury Products Inc Waterbury Westport Unionville Lakeville

Plastic Film & Sheet Materials
Gilman Brothers Co The Gilman
Plax Corporation Bloomfield

Plastic Forming Dura Plastics of New York, Inc. Westport Plastic Lining Equipment Enthone Inc New Haven

Plastic Machinery Black Rock Mfg Co The Bridgeport

Dura Plastics of New York, Inc. (sheet, rod & tube)

Plastic Material
Westport

Plastic Molders Plastic Molding Corporation Sandy Hook

Plastic Molding
Butterfield Inc T F
U S Plastic Molding Corporation Plastic Moulders

Waterbury Conn Plastics
Danielson Mfs Conn Plantics
Danielson Mfg Co The (nylon and other engineering plastics)
Engineered Plantics, Inc.
Scott & Sons Mfg Co Geo 8
Watertown
Watertown Mfg Co The
Watertown Watertown
Watertown Watertown Wallingford Waterbury

Plastic Pipe and Fittings
Colonial Blower Co
Danielson Mfg Co The (nylon and other engineering plastics)
Enthone Inc

Watertown
Watertown
Watertown
Native Watertown
Watertown
Watertown
Native Watertown
Watertown
Watertown
Native Watertown
Watertown
Watertown
Watertown
Watertown

Plastic Printing Plates Lockwood Sons Inc Wm H Hartford

Plastic Rod
Danielson Mfg Co The (nylon and other engineering plastics)

Danielson Danielson

Plastic Tape
Danielson Mfg Co The (nylon and other engineering plastics)

Danielson Danielson

Plastic Tubing
Danielson Mfg Co The (nylon and other engineering plastics)
Danielson Plastic Wire Coating Materials Electronic Rubber Co Stamford Plastics Chemical Division United States Rubber Co Naugatuck (Advt.) Plastics Machinery Farrel-Birmingham Company Inc Ansonia Plastics—Moulds & Dies Crown Tool & Die Co Inc Bridgeport Plasticrete Bloc Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic Hartford, Christie Plating Co Groton
Chromium Process Company The
Plating only)
Patent Button Co The
Water Plating Company
Waterbury
Waterbury Platers' Equipment otheraries Hall Company Apothecaries Enthone Inc Waterbury New Haven Waterbury Waterbury Lea Manufacturing Co The MacDermid Incorporated Plume & Atwood Mfg Co The Thomaston Plating
Christie Plating Co The (including lead plating) Groton Giering Metal Finishing Inc Superior Plating Co Tec-Plate Inc Windsor Plating Processes and Supplies Enthone Inc Seymour Manufacturing Co. The State Testing Laboratory I New Haven Seymour (plating Bridgeport Inc analyses Plumbers' Brass Goods Keeney Mfg Co The (special bends) McGuire Mfg. Co. Scovill Manufacturing Company Newington Plumbing Specialties
Risdon Manufacturing Co John M Russell Div
Naugatuck Pneumatic Conveyors Spencer Turbine Co., The Hartford Pole Line Hardware Mallenble Iron Fittings Co Branford Police Equipment
The Smith-Worthington Saddery Co Hartford Polishing C & E Metal Finishing Co Mirror Polishing & Buffing Co Hartford Pitney Bowes Inc Stamford Bristol Company The Waterbury Precision Machine Tool Spindles
Whiton Manufacturing Co (for milling, grinding, boring & drilling)
Farmington Precision Manufacturing Hartford Machine Screw Co Div Standard Screw Co Torrington Co The

Torrington Precision Revolving Machinery
Whiton Manufacturing Co Farmington Precision Sheet Metal Fabrication
Milford Fabricating Co Milford

Precision Springs & Wire Forms

y Spring Co Inc The Bristol

Premium Specialties Waterbury Companies Inc Waterbury

Preservatives—Wood, Rope, Fabric worth Incorporated ("Cuprinol") Darworth Incorporated ("Cellu-san")

Simsbury Case & Risley Press Paper Co

Oneco Press Papers Case Brothers Inc Manchester

Farrel-Birmingham Company Inc (Hydraulic) Ansonia

Presses—Power
Pneumatic Applications Co The (modernisation of presses through conversion to Wichita Air Clutch operation)
Simsbury Waterbury Farrel Foundry & Machine Co The Division of Textron Inc

Waterbury

Norwalk Tank Co Inc The (unfired to ASME Code Par U 69-70) South Norwalk Fairfield Whitlock Manufacturing Co The Hartford

Allied Printing Service Inc
Bussmann Press Inc
Case Lockwood & Brainard A necticut Printers Inc
City Printing Co. The Finlay Brothers
Heminway Corporation The Hidreth Press
Hunter Press
Lehman Brothers Inc
Miller-Johnson, Inc.
Taylor & Greenough Co The T B Simonds Inc
A D Steinbach & Sons
The Walker-Rackliff Company

Manchester
New Haven
New Haven
Mer Hartford
Waterbury
Meriden
Wethersfield
Hartford
Wethersfield
Hartford
Wethersfield
Hartford
New Haven Printing

Printing Machinery Banthin Engineering Co (automatic) Bridgeport

Printing Plates
Lockwood Sons Inc Wm H Hartford

Printing Rollers
Chambers-Storck Company Inc The (engraved)

Printing—S Ad-Craft Displays, Inc. -Silk Screen Bloomfield

Production Control Equipm ment Middletown Westport Ripley Company Inc Wassell Organization Inc

Profilers
Pratt & Whitney Co Inc West Hartford

Propellers—Aircraft
Hamilton Standard Div United Aircraft Corp
(propellers and other aircraft equipment)
Windsor Locks

Protective Coatings Harrison Company The A S (Waxes) South Norwalk

O'Toole & Sons Inc The

Pumps
Sumo Pumps Inc (Deep-well electro-submersi Stamford Yale & Towne Mfg Co The

Pumps-Small Industrial Eastern Industries Inc. New Haven

Punches
Hoggson & Pettis Mfg Co The (ticket & cloth)

Putty Softeners—Electrical Fletcher Terry Co The

Pyrometers Bristol Co The (recording and controlling)

Waterbury

Radiation—Finned Copper
Bush Manufacturing Co West Hartford
G & O Manufacturing Company The

Vulcan Radiator Co The (steel and copper)
Hartford

Radiators—Engine Cooling
G & O Manufacturing Co New Haven

Ratchet Offset Screw Driver Co J W Durham Chapman Co J

Rayon Staple Fiber Hartford Rayon Corp The Rocky Hill

Reamers
Atrax Company The (solid carbide) Newington
Pratt & Whitney Co Inc (All types)
West Hartford Pratt & Whitney Co Inc (all types carbide and HSS) West Hartford

Record Equipment
Wassell Organization Inc (filing equipment)

Recorders
Bristol Co The (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Reduction Gears
Farrel-Birmingham Company Inc
Snow-Nabstedt Gear Corp The
Ansonia
New Haven

Refractories

West Hartford

Howard Company New Haven
Mullite Works Refractories Div H K Porter
Co Inc Shelton Refrigeration

Dunham-Bush Inc

Research & Development
Raymond Engineering Laboratories (ElectroMechanical)
State Testing Laboratory Inc (chemical/physical testing)
Bridgeport

Resistance Wire

C O Jeliff Mfg Co The (nickel chromium, copper nickel, iron chromium, aluminum)

Southport

Stamford

Respirators
American Optical Company Safety Products
Putnam

Retainers
Hartford Steel Ball Co The (bicycle & auto-Hartford

Rigid Plastic Sheet Material Gilman Brothers Company The Gilman

Riveting Machines
Grant Mfg & Machine Co The
Linley Brothers Company
Ripley Company Inc.
H P Townsend Manufacturing
Co
Elimwood

Clark Brothers Bolt Co
Plume & Atwood Mfg Co The Thomaston
Raybestos Div of Raybestos-Manhattan Inc The
(brass and aluminum tubular and solid copBridgeport

Bridgeport per)

Bridgeport

ybestos Div of Raybestos-Manhattan Inc The
Bridgeport

American Brass Company The (copper, brass, Waterbury Reda bronze)
Bridgeport Brass Company
Bristol Brass Corp The (brass and bronze)
Bristol Scovill Manufacturing Company (aluminum, brass, bronze, etc.)
Waterbury brass, bronze, etc.)

Rollers—Bituminous Paving
Gabb Special Products Div E Horton & Son
Company Windsor Locks

Roller Skate Wheels
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Farrel-Birmingham Company Inc
Fenn Mig Co The
Precision Methods & Machines Inc
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury Newington Waterbury

Farrel-Birmingham Company Inc (Chilled and Alloy Iron, Steel)

Roofing Bloomfield Rotary Files Atrax Company The (carbide)

Routers
Atrax Company The (solid carbide) Newington

Rubber Chemicals
Naugatuck Chemical Division United States Naugatuck
Co The ("Factice" Rubber Co Stamford Rubber Supply Co Vulcanized Vegetable Oils)

Rubber Cutting Machinery
Black Rock Mfg Co The Bridgeport

Rubberized Fabrics Duro-Gloss Rubber Co The

Rubber Footwear Goodyear Rubber Co The Middletown

Rubber Gloves New Haven Seamless Rubber Company The

Rubber—Handmade Specialties Seamless Rubber Company The New New Haven

Rubber Latex Compounds and Dispersions augatuck Chemical Division United States Rubber Co (coating, impregnating and adhe-sive compounds)

(Advt.)

Farrel-B

T

Airex R Associat Bond Ru

Airex R ADS Inc

America Associate Auburn gasket

Naugatu Rubbe Naugatu

John P Anderso

Enthone

The Smi Russell 1

Ensign-I

America: Divisio

Capewell Capewell

Atlantic Capewell Thompso Capewell

Acme Sh Hartford

Weimann

H P Tow Accurate

Davenp Apex Too Auto Ele Brown M Consolida

Eastern A Fairchild Franklin Capacity Garthwait Greist Mi Hartford

Rubber Mill Machinery Farrel-Birmingham Company Inc Ansonia -Molded Specialties

T

Airex Rubber Prod Corp
Associated Gaskets, Inc.
Bond Rubber Corporation
Seamless Rubber Company The Portland Bridgeport Derby New Haven

Rubber Products
Airex Rubber Prod Corp Portland

Rubber Printing Plates ADS Inc Div CSW Plastic Types Inc Lockwood Sons Inc Wm H Hartford Hartford

Rubber Products-Mechanical American Felt Co Glenville
Associated Gasketa, Inc.
Abuburn Manufacturing Company
gasketa, molded parts)
Seamless Rubber Company The
New Haven

Rubber—Reclaimed
Naugatuck Chemical Division I United States Naugatuck

Rubbers
Naugatuck Chemical Div U S Rubber Co (synthetic rubbers and latex)
Naugatuck

John P Smith Co The New Haven

John P Smith Co.

Rust Preventives

Anderson Oil and Chemical Company, Inc.
Portland
New Haven

Rust Removers

Saddlery
The Smith-Worthington Saddlery Co Rartford Safety Belts

Russell Mfg Co Middletown Safety Clothing
American Optical Company Safety Products

Putnam Safety Fuses
Ensign-Bickford Co The (mining & detonating)
Simsbury

Safety Gloves and Mittens
American Optical Company Safety Products

Safety Goggles

American Optical Company Safety Products
Division Putnam

Saw Blades—Hack
Capewell Mfg Co The Hartford
Thompson & Son Co The Henry G New Haven

Saw Blades—Hack & Band Capewell Manufacturing Company

Saws. Band, Metal Cutting
Atlantic Saw Mfg Co
Capewell Manufacturing Co The
Thompson & Son Co The Henry G
New Haven

Saws-Hole Capewell Manufacturing Co The
Thompson & Son Co The Henry G New Haven Hartford

Sawdust
Nielsen & Sons Inc John R (graded hardwood and softwood)
Sou South Windsor

Acme Shear Company The Bridgeport

Acme Snear Volume Screens

Hartford Wire Works Co The (Windows, Doors Hartford and Porches)

Prod Corp Bloomfield

Serew Caps Weimann Bros Mfg Co The (small for bottles)

Screw Machines
H P Townsend Mfg Company The Elmwood

Accurate Screw Machine Products
Accurate Screw Products Inc (B & S Swiss & Davenports)
Aper Tool Co Inc The Bridgeport Auto Electric Screw Machine Co Inc Bridgeport Brown Manufacturing Co (up to 1½" capacity)
Aper Tool Co Inc Bridgeport Brown Manufacturing Co (up to 1½" capacity)
Aper Tool Machine Screw Corp Tool New Britain West Cheshire Eastern Machine Screw Corp Tool (up to 1½" capacity)
Carbwait Mfg Co A E (up to and incl ½" capacity)
Garthwait Mfg Co The (up to 1½" capacity)
Hartford Garthwait Mfg Co The (up to 1½" capacity)
Brown Machine Screw Co Div of Standard Screw Co (up to 5" capacity)
Brown Machine Screw Co Div of Standard Screw Co (up to 5" capacity)
Brown Machine Screw Co Div of Standard Screw Co (up to 5" capacity)
Brown Machine Screw Co Div of Standard Screw Co (up to 5" capacity)
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Brown Machine Screw Co Div of Standard Screw Co (up to 5" capacity)
Brown Machine Screw Co Div of Standard Screw Co Div of Standard Screw Co (up to 5" capacity Machine Screw Co Div of Standard Screw Co Div of Standa

Strew Machine From Forestring Stanley Humason Inc Independent Screw Machine Products (up to and incl 1½" capacity) Hartford Junior Screw Machine Products Inc West Haven Wethersfield Chausenort & Chapport & Cha

Lowe Mfg Co The Wethersfield Main Screw Machine Products (davenport & automatics exclusively) Waterbury National Automatic Products Company The Rordin

Nelson's Screw Machine Products
New Britain Machine Company
The
New Britain
New Britain

New Britain
New Haven Screw Machine Prods Inc (up to
1½" capacity)
Newton Screw Machine Products Co Plainville
Olson Brothers Company (up to ¾" capacity)
Plainville
Containington Olson & Sons R P
Plume & Atwood Mfg Co The
Scovill Manufacturing Company
United Screw Machine Co
Waterbury Machine Tools & Products Co
(Brown & Sharpe and Davenport)
Waterbury

Materbury
Screw Machine Tools
American Cam Company Inc (Circular Form
Tools)
Pratt & Whitney Co Inc Reamers, Taps, Dies,
Blades and Knurls)
West Hartford
Somma Tool Co (precision circular form tools)
Waterbury

Somma Tool Oo Screws

Allen Manufacturing Company The Hartford
American Screw Company Willimantic
Atlantic Screw Works (wood)
Bristol Company The (socket set and socket cap
Waterbury
Bolt Co
Standard screws)
Clark Brothers Bolt Co
Hartford Machine Screw Co Div of Standard
Hartford Activity of Standard Screw Co Div of Standard Screw Corporation The Hartford Holo-Krome Screw Corporation The Good Standard Screw Corporation The Hartford Scovill Manufacturing Company Superior Manufacturing Co The Torrington Co The Control of Screw Corporation Co The Control of Screw Corporation Co. The Control of Screw Co. Screw Co.

Allen Manufacturing Company The Bristol Co The Hartford Machine Screw Co Div of Standard Screw Co Holo-Krome Screw Corp The West Hartford

Sealing Tape Machines
Better Packages Inc ("Counterboy," "Tapeshooter," "Big Inch") Shelton
Derby Sealers Inc (gummed and pressuresensitive tapes) Ca-1-

Seals Russell Mfg Co (for oven doors and fire bulk-heads) Middletown

Sewing Machines
Greist Mfg Co The (Sewing Machine attach-Greist Mfg Co The (Sewing Machine attachments)
New Haven
Singer Manufacturing Company The (indus+-ial)
Bridgeport

Sharpeners
Gorn Electric Co Inc (electric knife and Stamford J B Williams Co The Glastonbury

Shears
Acme Shear Co The (household) Bridgeport Sheet Metal Fabrications
Lurie Inc A Bloomfield

Sheet Metal Products
American Brass Co The (brass and copper) Merriam Mfg Co (security boxes, boxes, tackle boxes, displays)

Parsons Co Inc W A (fabricators)

Plume & Atwood Mfg Co The United Manufacturing Co Division of the W L Hamden

Sheet Metal Stampings
American Brass Company The
American Buckle Co The
Doo Val Tool & Mfg Inc The
JH Sessions & Son
Plume & Atwood Mfg Co The
Scovill Manufacturing Company
brass, bronze, copper, nickel silver, steel and
other metals and alloys)
Waterbury
Terryville Mfg Co The
Terryville

Sheet Steel Dolan Steel Company Inc Bridgeport

Shell Cores Victors Brass Foundry Inc Guilford Shell Molding Victors Brass Foundry Inc Guilford

Shells

Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver—drawn, stamped—electric socket, screw) Waterbury Terryville Mfg Co The Terryville Wolcott Tool and Manufacturing Company Inc Waterbury

Showcase Lighting Equipment Wiremold Company The Hartford H C Cook Co The (for card files)

Signs
Ad-Craft Displays, Inc. (all types, quantity
Bloomfeld only)
Conn-Craft Co. (3 Dimensional, Plastic, Metal
Waterbury

a Wood)

Waterbury

Silk Screen Process Printing

Ad-Craft Displays Inc
Norton Co R H
Sirocco Screen prints
Stifel & Kufta Inc
New Haven
New Haven
New Haven
New Britain New Haven New Haven New Britain

Silk Screening on Metal
Ad-Craft Displays Inc Bloomfield
Merriam Mfg Co (Displays and Specialties, to
order)
Durham

Silverware Wallace Silversmiths, Inc. Wallingford

Simulators Reflectone Electronics, Inc. Stamford

Sintered Metal Products
American Sinterings Div of Engineered Plas-tics Inc (Powder Metal Parts) Watertown Raybestos Division of Raybestos-Manhattan Inc

Sizing and Finishing Compounds
American Cyanamid Company Waterbury
Slide Fasteners
G E Prentice Mfg Co The
Scovill Manufacturing Company
Scipment GRIPPER
Waterbury
Waterbury Kensington (GRIPPER Waterbury

zippers)
Smoke Stacks
Bigelow Company The (steel)
Norwalk Tank Co The

Scovill Manufacturing Comps snap fasteners) (GRIPPER Waterbury Soap

J B Williams Co The (industrial soaps, toilet soaps, shaving soaps)

Sound Equipment Vinco Electronics Corporation New Haven Special Machinery Banthin Engineering Company

Banthin Engineering Company (complete and/or parts)
Black Rock Mfg Co The
Bridgeport
Bri

Special Parts Special Parts
Fenn Mfg Co The
Greist Mfg Co The (small machines, especially precision stampings)
New Haven Hartford Machine Screw Company
Div of Standard Screw Co
J H Sessions & Son Bristol
Torrington Co The Torrington

Spinnings Spinnings
Gray Manufacturing Company The
Spline Milling Machines
Townsend Mfg Co The H P

Spotwelding
Spotwelders Inc (aluminum, steel, magnesium, titanium & alloys)
Stratford

Spray Painting Equipment and Supplies Lea Manufacturing Co The Waterbury

Spring Coiling Machines
Torrington Manufacturing Co The Torrington Townsend Mfg Co The H P

Spring Units
Owen Silent Spring Division American Chain
& Cable Company Inc Bridgeport

& Cable Company and
& Spring Washers

Barnes Co The Wallace Div Associated Spring
Bristol
Corp.

The Tryville Corp Terryville Mfg Co The

Springs
Central Spring Co (Torsion and Double Tor-Terryville

Central Springs
Springs—Coil & Flat
Barnes Co The Wallace Div Associated Spring
Bristol
Bristol Corp
Barrett Co William L
Bristol Spring Manufacturing Co
Foursome Manufacturing Co
Newcomb Spring Corp The
New England Spring Mfg Co
Peck Spring Co The
Stanley Humason Ine Plainville Bristol Bristol Southington Unionville Plainville Forestville

Adlantic Precision Spring Co
Barnes Co The Wallace Div Associated Spring
Bristol Spring Manufacturing Co
Foursome Manufacturing Co
Stanley Humason Inc
New England Spring Mfg. Co.
Peck Spring Co

1	T	,	S	M	A	D
			Springs	-Wire		
Ba	nner Si	pring	Corporat	ion	Har	tford
Ba	rnes Co	The	Wallace	Div Asso		pring
	rnston					nville
Br	istol Sp	ring !	Manufact	turing Co		nville
Col	ionial S	pring	Corporat	tion The		tford
Cor	nnectici	at Spr	ing Corr	poration T	he (con	pres-
			n, torsic			ristol
Sta	inley H	nmanu	n Inc	E C0		tville
Ne	weomh	Sprip	g Corp T	'he	Southi	
Ne	w Engl	and S	pring Mi	fg. Co.		nville
Pe	ck Spri	ng Co		-		nville
D	R Tem	plemai	n Co (co	il and tor		nville
					Lini	nville
		Spi	ings. Wi	ire & Flat	t	
Pe	ck Spri	ing Co				nville
			Sprinl	klera		
Sec	vill 1	Manuf		Compan	v (GE	REEN
8	SPOT)					rbury
		_				
				al Produc	ts	
An	nerican	Brass	Compan	y The	Wate	rbury
			Stamp	inee		
Do	oVal Te	& loc	Mfg Inc	The	Naug	atuek
			facturin			ristol
				Co The (s	mall)	
_					Thom	
Sec	M Illve	anufa	cturing	Company	(alum	inum,
1	orass,	bronze	copper	r, nickel	silver,	steel
	lectrics	ner n	io oto	nd alloys	-autom	otive,
	recel ica	u, rad	10, 466.	deep draw		rbury
Sta	nley P	ressed	Metal		New B	

Diminity Litered Meters	TACM	Dittain
Stampings-Small		
Aeme Shear Co The	Bri	idgeport
Barnes Co The Wallace Div Asso	ciated	Spring Bristol
Barret Co William L		Bristol
Bristol Spring Manufacturing Co		lainville
Greist Manufacturing Co The		Haven
Stanley Humason Inc		restville
Wire Form Inc		Milldale

Stamps Bell-Adam Steel Stamp Co. (steel)	New Britain
Hoggson & Pettis Mfg Co The (ste	el) New Haven
Parker-Hartford Corporation (steel) Schwab & Company (steel)	Hartford Bridgeport
Stationery Specialties American Brass Company The	Waterbury

Steel Castings	
Hartford Electric Steel Corp The (
alloy and stainless steel castings)	Hartford
Malleable Iron Fittings Co	Branford
Nutmeg Crucible Steel C	Branford

Barnes	Steel-Cold Relled Co The Wallace Div		d Spring
Detroit	Steel Corporation		Hamder
	Steel-Cold Relled	Stainless	_

Ulbrich Stainless Steels Wallingford Steel Company	Wallingford Wallingford
Steel—Cold Rolled Strip Detroit Steel Corporation	Hamder

Detroit Steel Corporation	Hamden	
Steel-Cold Rolled Strip and Wallingford Steel Company	Sheets Wallingford	
Steel Goods		

Merriam	Mfg	Co	Steel (sheets	products	to	order) Durham
	-				-	

Thompson	å	Son	Co	The	Hen	ry	G	Haven
		04		- 224	-			

Waterbury	Steel Lock &	Rolling Rules Specialty Co The	Milford
	Si	teel Stamps	

Cooney	Steel Engraving Co	Stamps	Branford
	Ster	sotypes	

			Stereotypes					
New	Haven	Ele	ctrotype	Div	Electro	Haven		
		Stop	Clocks,	Electr	rie			

H	C	Thompson Clos	ck Co the	Bristol
R	A	E Storage Bat	age Batteries tery Mfg Co	Glastonbury

		-manney &		Grasconoury
Auburr	Manuf	Straps, acturing	Leather Company	The (textile,

	Strip Steel Corporation Company Inc	New Haven Bridgeport
	C4 4 3 30 331	

Surface Metal Raceway & Fittings Wiremold Company The Hartford Surgical Dressings
Acme Cotton Products Co Inc
Seamless Rubber Company The New Haven

Surgical Rubber Goods Seamless Rubber Company The New Haven

D M/-	Swaging	Machin	Newingt	on
Fenn Mfg Torrington Waterbury Division	Co The	ndry &	Torringto Machine Co Ti Waterbu	on he

Sweeping Compounds
Nielsen & Sons Inc John R South Windsor Nielsen & Sons Inc John R Switchboards Wire and Cables Rockbestos Products Corp (asbestos insulated) New Haven

Switches-Electric General Electric Company Bridgeport

Synthetic Fabrics American Felt Co Glenville

Tableware—Stainless Steel
Wallace Silversmiths, Inc. Wallingford Tableware—Sterling Silver
Wallace Silversmiths, Inc. Wallingford

Tabulating Equipment—Manual
Denominator Company Inc Woodbury
Veeder-Root Incorporated Hartford

Veeder-Root Incorporated

Tanks

Acme Welding Div United West Hartford

Bigelow Company The (steel) New Haven
Comco Inc Div of Enthone Inc (steel, alloy
and lined)
Colonial Blower Co (steel and alloy) Plainville
Connecticut Welders Inc (steel, alloy & lined)
Wallingford
Enthone Inc
King Co Alfred B (steel, alloy and lined)
North Haven
South Norwalk Norwalk Tank Co The South Norwalk Relock Inc (Alloy) Fairfield Storts Welding Company (steel and alloy) Meriden

Walton Company The West Hartford

Tape
Russell Mfg Co (Glass Electrical Insulating
Tapes, Glass Fabrics for Plastic Moulding)
Middletown

Tapes—Industrial Pressure Sensitive cless Rubber Company The New Haven

Seamless Rubber Cotspan,

Tape Machines

Better Packages Inc (Manual and models for case taping)

Derby Sealers Inc (manual and electric models)

Derby

Hanson-Whitney Company The Pratt & Whitney Co Inc West Hartford

Brownell & Co Inc Moodus

Telemetering Instruments
Bristol Co The Waterbury Bristol Co The
Television—Radio
Junior Screw Machine Products Inc
West Haven

McNeal J D Testers—Insulation New Haven

Testers—Insulation Wire & Cable
Davis Electric Company Wallingford Testers—Nondestructive, Ultrasonic
ry Products Inc Danbury

Testing
State Testing Laboratory Inc (environmental, X-ray, tensile, bearings)
Bridgeport

Textile Printing Gums Polymer Industries Inc Springdale

Textile Processors Amerbelle Corporation Rockville

Thermometers Bristol Co The (recording and automatic con-Waterbury Stratford Manning Maxwell & Moore Inc

Thin Gauge Metals
Plume & Atwood Mfg Co The
Thinsheet Metals Co The (plain or tinned in waterbury

American Thread Co The Belding Heminway Corticelli Willimantic

Thread Chasers
Geometric Tool Division, Greenfield Tap & Die
Corp New Haven

Thread Gages
Hanson-Whitney Company The
Pratt & Whitney Co Inc

West Hartford Thread Milling Machines
Pratt & Whitney Co Inc West Hartford

Thread Rolling
Co The Thread Products Div
Hartford Bland Burner Co

Thread Rolling Machinery
Hartford Special Machinery Co The Hartford
Mettler Machine Tool Inc
Waterbury Farrel Foundry & Machine Co The
Division of Textron Inc
Waterbury

Grant Mfg & Machine Co The (double end automatic)

Timers, Interval
A W Haydon Co The
H C Thompson Clock Co The
Cramer Controls Corporation The
Rhodes Inc M H

Waterbury
Bristol
Centerbrook
Hartford

Rhodes Inc a Finding Devices

B & N Tool & Engineering Co and model work)

Cramer Controls Corporation The Centerbrook A W Haydon Co The Lux Clock Manufacturing Company Waterbury Rhodes Inc MH Rhodes Inc MH
United States Time Corporation The
Waterbury

Timing Devices & Time Switches
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
M H Rhodes Inc Hartford

Tinning
Thinsheet Metals Co The (non-ferrous metals in rolls) Waterbury
Wilcox-Crittenden Div North & Judd Mfg Co
Middletowa

Armstrong Rubber Company The West Haven

Scovill Manufacturing Company (bus, street car and subway fare) Waterbury

Tool Bits
Thompson & Son Co The Henry G New Haven

Tool Chesta Vanderman Manufacturing Co The Willimantic

Tool Hardening Commercial Metal Treating Co

Bridgeport

Tools

B & N Tool & Engineering Co (dies, jigs, fixtures, sub-press and progressive) Thomaston Hoggson & Pettis Mfg Co The (rubber workers)

141 Brewery St

New Haven

Tools & Dies Metropolitan Tool & Die Moore Special Tool Co Swan Tool & Machine Co The Bridgeport Hartford

Tools, Dies & Fixtures Greist Mfg Co The New Haven

Tools, Dies, Jigs & Fixtures
Lyons Tool & Die (modelwork, jig boring)
Meriden
Middletown
Vanaington Otterbein Co J A Telke Tool & Die Mfg Co

Tools, Fixtures, Gauges
Fredericks Tool Co J F West Hartford

Totalizers Reflectone Electronics, Inc. Stamford

Geo S Scott Mfg Co The Wallingford Silbert Co The A C New Haven N N Hill Brass Co The East Hampton Terryville Mfg Co The (stampings for) Terryville Waterbury Waterbury Companies Inc

Transformers

Monarch Electric Co (Allis Chalmers)

New Britain

Trucks—Commercial

Metropolitan Body Company (International
Harvester Truck chassis and "Metro" bodies)

Bridgeport

Truck—Li Excelsior Hardware Co The

Trucks—Skid Platforms
Excelsior Hardware Co The (lift) Stamford

Tube Clips H C Cook Co The (for collapsible tubes)

H C Cook Co The (for collapsione Ansonia
Weimann Bros Mfg Co The (for collapsible
Deriv

tubes)
Tube Fittings
Scovill Manufacturing Company (UNIFLARE flared tube and LOXIT compression tube)
Waterbury

Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

D E ı N. C 0 N N E CTIC U T M A T

Washers

American Felt Co (felt)

Auburn Manufacturing Compary The (all manufacturing Clark Brothers Bolt Co

Eabricon Com

Milldale Tubes—Collapsible Metal
Sheffield Tube Corp The New London Wire Arches & Trellises Hartford Wire Works Co The John P Smith Co The Hartford New Haven Tubing

American Brass Co The (brass and copper)

Waterbury

G & O Manufacturing Co (finned)

Scovill Manufacturing Company

Waterbury

Waterbury Wire Baskets Rolock Inc
Wiretex Mfg Inc (Industrial, for acid, heat,
treating and degreasing)
Bridgeport Clark Brothers Boit Co Milidale
Fabricon Corp
Plume & Atwood Mfg Co The (brass & copper)
Thomaston Saling Manufacturer Company (made to order) Unionville Wire Cloth
Hartford Wire Works Co The
C O Jeliff Mfg Co The (all metal, all meshes)
Southport Copper)
Wallingford Steel Co The (stainless and super metals)
Waterbury
Wallingford Terryville Mfg Co The (made to order—all Terryville Tubing—Flexible Metallic American Brass Co Metal Hose Branch Waterbury Washers-Felt Pequot Wire Cloth Co Inc Rolock Inc (Alloy) Smith Co The John P merican Felt Co has W House & Sons Inc (Mills & Cutting Unionville Norwalk Am. Chas W Plant) Fairfield New Haven Wire Dipping Baskets Hartford Wire Works Co The John P Smith Co The Watches Tubing—Heat Exchanger
American Brass Company The Waterbury
Scovill Manufacturing Company Waterbury E Ingraham Co The Bristol
United States Time Corporation The Waterbury Hartford New Haven John F Shield Street, Machinery
Nilson Machine Company The A H Shelton
Torrington Manufacturing Company The
Torrington Water Deionizers Penfield Mfg Co Meriden Tumbling Barrels and Accessories n & Sons Inc John R South Windsor Water Heaters
Whitlock Manufacturing Co The (instantaneous Wire Formings
Master Engineering Company
North & Judd Manufacturing Co
Peck Spring Co
Turner & Seymour Manufacturing Co
Turner & Torrington Tumbling Equipment and Supplies
Esbec Barrel Finishing Corp
Byram Water Heaters— Electric Bauer & Company Inc Hartford Tumbling Service Esbec Barrel Finishing Corp Water Heaters—Gas or Keros Holyoke Heater Corp of Conn Inc Meriden Hartford Harrison Company The A S (and other pro-South Norwalk Wire Forms
Atlantic Precision Spring Co Forestville
Banner Spring Corporation Hartford
Barnes Co The Wallace Div Associated Spring
Corp
Bristol
Bristol Spring Manufacturing Co Plainville
Central Spring Co (short run orders)
Terreville Turntables
Macton Machinery Company Inc (industrial & Waxes-Floor Fuller Brush Co The Typewriters Hartford Royal McBee Corp Underwood Corporation Hartford Russell Mfg Co (Webbing f Belts—all types of webbing) Terryville
Hartford
Hartford
Bristol
Southington for Safety Seat Middletown Colonial Spring Corporation The Connecticut Spring Corporation The Foursome Manufacturing Co Gemco Manufacturing Co Inc So Typewriters-Underwood Corporation -Portable Wedges
Saling Manufacturing Company (hammer & Unionville Hartford Typewriter Ribbons and Supplies
Royal McBee Corp
Underwood Corporation
Hartford and Bridgeport axe) Welded Products

Acme Welding Div United Tool & Die Co
West Hartford Gemco Manufacturing Co Inc Stanley Humason Inc New England Spring Mfg Co Peck Spring Co Templeman Co D R Terryville Manufacturing Co Wire Form Inc Forestville Unionville Plainville Plainville Plainville Terryville Milldale West Hartford
Welding
Aircraft Welding & Mfg Co Inc (aluminum,
stainless steel, magnesium)
Ansonia Steel Fabrication Co., Inc., (steel,
stainless steel and aluminum fabrication)
Ansonia Ansonia Ultrasonic Processing Equipment
l Ultrasonics Co The Hartford Wire Form Inc

Wire Goods

American Buckle Co The (overall trimmings)

West Haven

Waterbury Underclearer Rolls
Sonoco Products Co (Climax-Lowell Div)
Mystic Connecticut Welders Inc (fabrication & repairs)
Wallingford Patent Button Co The Scovill Manufacturing Company (To Order) Waterbury Farrel-Birmingham Company Inc.
Industrial Welding Company (Equipment
Manufacturers—Steel Fabricators) Hartford
King Co Alfred B North Haven Uniforms Magson Uniform Co. Kensington Wire Partitions Hartford Wire Works Co The John P Smith Co The V-Belt Drives

Monarch Electric Co (Allis Chalmers)

New Britain Manuacoan King Co Alfred B

Welding—Lead

Connecticut Welders Inc (tanks & coils)

Wallingford
North Haven Hartford John P Smith Co And
Wire Products
Stanley Humason Inc Forestville
Peck Spring Co
Plume & Atwood Mfg Co The (to order)
Thomaston King Co Alfred B
Lead Products, Inc. (tanks and fabrication)
Mancher Valves Jenkins Bros. Bridgeport ester Storts Welding Company (tanks and fabrica-tion) Meriden Vacuum Bottles and Containers
American Thermos Products Co Norwich Wire Reels
Mettler Machine Tool Inc
Nilson Machine Company The A H
Shelton Welding-Lead Bricks Lead Products, Inc. Manchester Vacuum Cleaners
Electrolux Corporation Old Greenwich
Spencer Turbine Co The Hartford Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury Welding Rods
American Brass Company The Wa
Bridgeport Brass Company Bri Waterbury Bridgeport e) Bristol American Buckle Co The (pan tinners' trimmings) Stanley Humason Ine Peck Spring Co Templeman Co D R Valves—Aircraft
Bridgeport Thermostat Div Robertshaw-Fulton
Controls Co Milford handles West H rest Haven
Forestville
Plainville
Plainville Welding Solder
Lead Products, Inc. (wire, bar and cakes and babbits)

Manchester Valves—Relief & Control
Beaton & Caldwell Mfg Co New Britain Wells Church Co The Stephens B Wire—Specialties
Andrew B Hendryx Co The Wicks New Haven Valves-Safety & Relief Manning Maxwell & Moore Inc American Felt Co
Auburn Manufacturing Company The (felt, asbestos)
Middletown Wire Springs
Carlson Spring Company (Torsion, Compression, Extension)
Berlin Vanity Boxes
Bridgeport Metal Goods Mfg Co
Plume & Atwood Manufacturing Co
Scovill Manufacturing Company bestos) Holyoke Heater Corp of Conn Inc Bridgeport Thomaston Waterbury Hartford Wire Straightening and Cutting Machinery Mettler Machine Tool Inc New Have Wiffle Ball Wiffle Ball Inc The New Haven New Haven Window & Door Guards Hartford Wire Works Co The Smith Co The John P American Velvet Co (owned and A Wimpfheimer & Bros Inc)
Leiss Velvet Mfg Co Inc The Willimantic Wiring Devices Harvey Hubbell Inc Hartford New Haven Bridgeport American Brass Company The Atlantic Wire Co The (steel)
Bartlett Hair Spring Wire Co The (steel)
Bristol Brass Corp The (brass & North Haven bronse)
Bristol Brass Corp The (steel)
Bristol Wire Co The (steel)
Hudson Wire Co Winsted Div enameled magnet)
Platt Bros & Co The (size)
Plume & Atwood Mfg Co The (size and sine alloy wires)
Plume & Atwood Mfg Co The (brass, bronze, and Nickel Silver)
Wire and Cable

Waterbury Wood Scrapers Fletcher-Terry Co The Wire Forestville Venetian Blinds Findell Manufacturing Company Jennings Company The S Barry Woodwork C H Dresser & Sons Inc (Mfg all kinds of Manchester New Haven Hartford Hartford woodwork) Hartford Builders Finish Co Ventilating Systems
Colonial Blower Company
Ventilating Supplies Inc Plainville Plainville Woven Felts—Weel
Chas W House & Sons Inc (Mills & Cutting
Plant) Vertical Shapers
Pratt & Whitney Co Inc West Hartford Yarns

Aldon Spinning Mills Corporation The (fine-woolen and specialty)

Ensign-Bickford Co The (jute-carpet)

Simabury Vibraters—Pneumatic Branford Co The (industrial) New Britain Scovill Manufacturing and Nickel Silver)

Wire and Cable

Continental Wire Corp (for industrial and military applications)

General Electric Company (for residential, commercial and industrial applications)

Bridgeport

Rockbestos Products Corporation (all asbestos, mining, shipboard and appliance applications)

New Haven

(Advt.) Vinyl Extrusion & Moulding Compounds Electronic Rubber Co Stamford Platt Bros & Co The (ribbon, strip and wire)
P O Box 1030 Waterbury Fenn Manufacturing Company The (Quick-Action Vises)
Vanderman Manufacturing Co The (Combination Bench Pipe)

Vises

The (Quick-Newington Newington Newington Newington)

Willimantic Zinc Castings Newton-New Haven Co Inc West Haven

Stamford Wall Paper Co Inc

Zinc Die Castings
Mt Vernon Die Casting Corporation Stamford
Stewart Die Casting Div Stewart-Warner Corp
Bridgeport

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The Rourke-Eno Paper Co., Inc.

Hartford New Haven

Springfield

siness Pattern

(Continued from page 37)

GNP is estimated at \$490 billion annually. This is somewhat below earlier estimates because of the lengthy steel strike and assumes that the work stoppage will end shortly. With no interruptions in steel production, GNP is expected to exceed a \$500 billion annual rate in the first half of 1960.

Capital Spending

Further anticipated growth in business spending for new plant and equipment is an important factor in the projected increase in GNP.

It is now estimated that capital spending for 1959 will exceed \$33 billion. This is 9% above last year, but 10% below the record year of 1957.

Increases are planned by all major business categories except electric and gas utilities. More of the spending will be for modernization to improve efficiency rather than expansion of production facilities. Next year is expected to surpass 1959 and top the record \$37 billion of 1957.

Military Spending

For most of the period since the start of the Korean War Connecticut has led all other states in per capita military contract awards.

Both Connecticut and national awards decreased from 1956 to 1957, but contracts to our state continued to drop in 1958 despite improvement nationally. This reflects the change in defense emphasis from manned aircraft to missiles. Consequently, the transportation equipment industry, our largest manufacturing segment, continues to operate below its mid-1957 level.

In the first half of 1959 the story was quite different. Contracts totaling \$678 million were awarded to Connecticut firms representing, on a per capita basis, the highest level since the first half of 1956. This sharp improvement tends to firm our economy and should help maintain the upward trend underway since mid-1958.

Labor Turnover

The accompanying chart shows the impact of the recovery on Connecticut labor turnover rates. Early in the recession, hirings dropped and separations rose as manufacturers cut their payrolls. This caused a large excess of separations over hirings through May 1958. Since then, hirings have been above separations in every month but one as factory employment increased by 20,000. The present pattern of more hirings than separations should continue well into 1960.

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Bridgeport



HIS LIGHTING SYSTEM in the recently renovated engineering department of Casco Products Corporation, Bridgeport, illustrates the trend by progressive Connecticut industries toward higher lighting levels. Properly designed fluorescent lighting assures Casco's product and tool designers excellent seeing conditions over prolonged periods, with a minimum of eye fatigue.

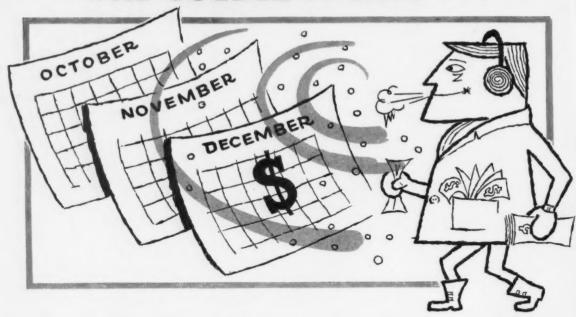
Higher illumination levels help industry increase productivity, improve workmanship and provide pleasant working environment. The Illuminating Engineering Society has new lighting standards, based on 10 years of research and tests, recommending more lighting for various industrial operations. Consult your electric utility company about the new IES lighting standards.

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